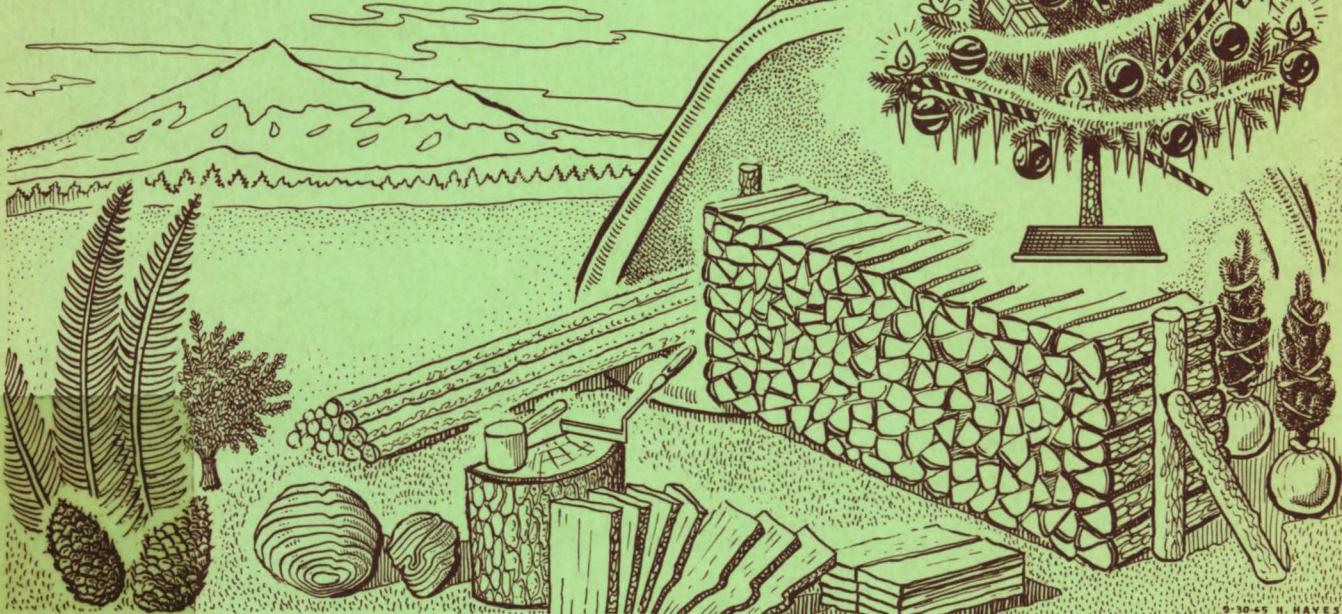


SPECIAL FOREST PRODUCTS

1964 HARVESTING
REPORT

OREGON &
WASHINGTON



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U. S. DEPARTMENT OF AGRICULTURE • FOREST SERVICE
PACIFIC NORTHWEST REGION

1965

ACKNOWLEDGEMENTS

Compilation of this data was a team effort involving many individuals and organizations. Grateful appreciation is expressed to personnel of the following:

Oregon State Forestry Department
State of Washington Department of Natural Resources
O. S. U. - Federal Cooperative Extension Service
W. S. U. - Federal Cooperative Extension Service
Soil Conservation Service
Bureau of Land Management
U. S. Forest Service

People in these organizations donated a great deal of time and effort to gather a wealth of statistical information. This was done on a county-by-county basis. One man in each county served as a coordinator for gathering and compiling the information. He, in turn, enlisted the assistance of people from other agencies to gather production and price estimates for the various special forest products.

Special appreciation, too, is expressed to many individuals and companies who harvest or purchase special forest products. Without their generous cooperation, assistance, and counsel, this report would not have been possible.

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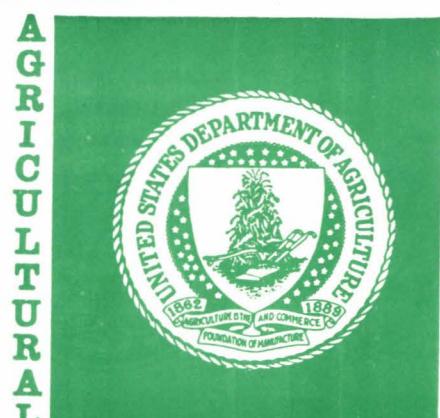
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Introduction

There is more to a forest than the trees! We know many small, sometimes strange products are harvested, but what, where, and how much? This report is an attempt to determine the importance and extent of these small, often overlooked products of forest land. We are calling them "Special Forest Products". Included are such items as Christmas trees, floral greenery, split cedar products, crude drug products, forest seed cones, fuelwoods, and trees and shrubs dug for landscaping. Small roundwood products under 25 feet in length, such as posts, poles, orchard props, and cabin logs are also included.

This represents the first attempt to compile complete Northwest production and value of products statistics for special forest products. The nature of these products is such that many independent pickers and cutters are involved. Obtaining county by county data was difficult for some products, and various degrees of accuracy should be expected.

Special forest products are economically important to many people living in rural areas. Many families either make or supplement their income by picking or cutting these hidden treasures. Special forest products may provide landowners a source of intermediate income. This provides additional incentive to retain ownership and permit the timber to grow to economical maturity before it is logged. Harvesting special forest products does not impair timber growth and may actually benefit it, as when small roundwood products are removed as thinnings. Some types of special forest products, such as floral greenery, are more than just compatible with timber growing; they are actually dependent on the trees for the required shade.

The most desirable degree of shade in this case is that provided by a properly thinned, well-managed forest.

Special forest products provide about \$15 million annual income to the harvesters or cutters. Returns are multiplied many times when the products pass through the hands of wholesalers, processors, and retailers. These small, frequently overlooked, and sometimes unique products indeed comprise an important industry in the Pacific Northwest.

Total Volume and Value of All Products

Volume and value estimates for 1964 include only special forest products that are harvested commercially. Some types of commercially harvested special forest products are omitted from this summary because of lack of data. These include decorative woods, rustic woods, and wild berries. The values of these products could amount to several hundred thousand dollars a year. Nonreported items also include products harvested by home owners, farmers and others for their own use.

Estimates for values of the products are rounded. They are based on average unit price received by the harvester. In the case of Christmas trees, values are computed at the wholesale price to the retailer. The volume and value of forest seed cones varies a great deal from year to year. However, the indicated 1964 cone crop of 538,000 bushels is considered about average.

OREGON & WASHINGTON

Table 1.--VOLUME AND VALUE OF COMMERCIAL HARVEST OF SPECIAL FOREST PRODUCTS 1964

Item	Unit	Total		Oregon		Washington	
		Oregon & Washington Volume	Value	Volume	Value	Volume	Value
Christmas Trees	Trees	3,159,320	\$ 4,810,000	710,250	\$1,160,000	2,449,070	\$3,650,000
Coniferous Christmas Boughs	Pounds	1,351,840	100,000	747,580	55,000	604,260	45,000
Floral Greenery							
Huckleberry	Bunches	3,663,500	960,000	871,000	230,000	2,792,500	730,000
Salal	"	1,776,400	470,000	106,000	30,000	1,670,400	440,000
Fern	"	3,509,400	670,000	1,395,000	270,000	2,114,400	400,000
Other	"	201,800	30,000	176,000	25,000	25,800	5,000
Moss	Bales	2,668	7,000	1,890	5,000	778	2,000
Native Transplants	Plants	34,710	45,000	24,150	20,000	10,560	25,000
Split Cedar Products							
Shakes (Salvage only)	Boards	32,200,000	3,220,000	10,000,000	1,000,000	22,200,000	2,220,000
Fence Posts	Posts	370,000	130,000	186,000	65,000	184,000	65,000
Hop Poles	Poles	21,000	30,000	-	-	21,000	30,000
Other		-	40,000	-	10,000	-	30,000
Small Roundwood Products							
Misc. Posts	Posts	141,100	65,000	34,500	15,000	106,600	50,000
Hop Poles	Poles	53,200	35,000	12,500	10,000	40,700	25,000
Misc. Poles	"	103,500	90,000	56,600	55,000	46,900	35,000
Other	Pieces	170,700	55,000	31,500	15,000	139,200	40,000
Fuelwood							
Fuel Cordwood	Cord	90,810	1,820,000	21,755	440,000	69,055	1,380,000
Charcoal Cordwood	"	250	5,000	250	5,000	-	-
Crude Drugs							
Cascara	Pounds	1,800,000	306,000	800,000	136,000	1,000,000	170,000
Quinine Conk	"	44,000	11,000	10,000	3,000	34,000	8,000
Other	"	305,000	16,000	105,000	6,000	200,000	10,000
Forest Seed Cones	Bushels	538,000	1,310,000	372,000	910,000	166,000	400,000
Total			\$14,225,000		\$4,465,000		\$9,760,000

Christmas Trees

Climatic conditions in the Pacific Northwest are ideally suited for growing Christmas trees. It is widely recognized that Oregon and Washington produce some of the most beautiful Christmas trees in the country. Commercial Christmas tree production in the two States was about 3½ million trees in 1964. This is slightly less than 10% of the total National production. About one-third of the trees produced were retailed in Oregon and Washington. The remainder were shipped principally to California with relatively small shipments to other states, particularly in the Southwest and Hawaii.



Douglas-fir is the leading Christmas tree in both States. Greatest production comes from cultured natural stands, such as this, in the southern Puget Sound Area.

Mason and Kitsap Counties, in the southern Puget Sound area of Washington, continue to lead all others in Christmas tree production. These two counties produced about as many Christmas trees as all the other counties in both States combined.

Important trends in the industry since the 1959 analysis are:

1. Douglas-fir continues to be the leading Christmas tree species in both States by a wide margin. It accounted for 88% of the total cut in 1964, the same as in 1959.



Poor quality trees, such as this, are usually harvested from wild, uncultured stands. Their merchantability is declining every year in competition with higher quality cultured trees.

Second in production are noble fir and other high elevation true firs (silver fir, shasta red fir and alpine fir). These species made an impressive gain from 2% to 5% of the total cut in the five-year period.

Third in production is concolor fir, which is the principal Christmas tree species in eastern Oregon. It has been a long-time favorite on the California markets. Production dropped from 6% of the total cut in 1959 to 2½% in 1964, thus changing it from second to third place.

Fourth in production is lodgepole pine, together with its coastal variety, shore pine. These accounted for slightly less than 2% of total production, about the same as in 1959.

Other species, in descending order of production, are grand fir (1-3/4%) and Scotch pine (0.5%). Grand fir accounted for only about half as much cut in 1964 as in 1959. Scotch pine, on the other hand, made a significant gain since 1959, at which time it was practically unknown on Pacific Northwest markets. This pine, a native of Europe, has been a favorite plantation species in the East and Lake States for many years. Recently it replaced Douglas-fir as the most important Christmas tree species in the U.S.A. Further modest increases for pines are predicted in Oregon and Washington when new plantations reach harvesting size.

2. Increased demand for high quality is evident. Buyers, both wholesale and retail, are strongly rejecting cull grade trees. The average customer obtained a better tree for his money in 1964 than he did five years ago.

Uncultured trees from natural wild stands accounted for 57% of the production in 1959, but only 26% in 1964.

Plantation grown trees have increased from 1% to 5% of total production in the same period. Plantation grown trees are being steadily improved in quality as more intense and refined cultural practices are being learned and applied. These include basal pruning, leader pruning, and side shearing.

Managers of cultured natural Christmas trees are boosting their quality every year through improved cultural practices. Cultured natural Christmas trees are defined as wild, natural trees that have been cultured to improve yield and quality. Standard cultural practices are weeding out undesirable species, thinning, and basal pruning.

A recent improvement in culturing natural stands has been fertilizing with nitrogen to improve needle color and texture, strengthen the branches and prolong fresh appearance after cutting. Another recent development is leader pruning and shearing natural trees on faster growing sites to improve their shape and density. More refined thinning and basal pruning techniques have also been used to improve quality.

Improved Christmas tree quality has reduced the competitive position of metal and plastic substitutes. Imitation trees appear likely to remain in the picture, especially for long-period indoor commercial displays. However, they do not appear to have captured a very significant part of the Pacific Northwest home market.



These plantation grown trees in Lewis County, Washington, are being sheared to improve shape and density.

3. Some significant trends in preferred shapes of trees are showing up. Douglas-fir, until recent years, has all been unsheared. During the past few years, some growers have started to produce rather dense, sheared Douglas-fir in a rotation of 6 to 8 years.

Preferred sites are either plantations or cultured natural areas where growth rates are moderate. This is in contrast to slow growth sites that are preferred for growing the unsheared Douglas-firs. The sheared tree thus far has captured only a small percentage of the Douglas-fir market, but it is gaining every year.

Locally grown, high quality sheared pines, particularly Scotch and shore pines, are just beginning to appear in Oregon, Washington and California markets in noticeable quantities. They are winning new customers slowly, because the West Coast has always been predominantly "fir country". However, **Pacific Northwest** growers are already beginning to feel an impact of Scotch pine competition from other states on the California market. Scotch pine from Michigan and Wisconsin captured about 2% of the total California Christmas tree market in 1964.

In the upper price range high elevation true firs, especially noble fir, are becoming increasingly popular on West Coast markets. Several large timber companies are beginning to manage or lease their high elevation clearcut areas for Christmas tree production. These species have greatest eye appeal when their leaders and branches are permitted to grow naturally. Shearing and leader pruning of these species is not generally practiced. It somehow distracts from the stiff, open, formal branching habit that makes them so attractive to many people.

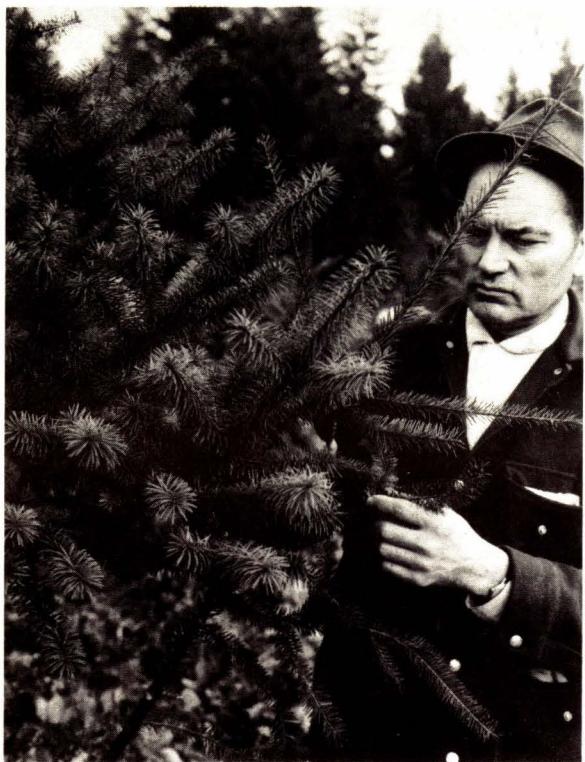
Narrower trees (60-75% taper) with good density are becoming more popular than wider, open-branched trees. Shippers and most home owners prefer their modest space requirements.

This stand of noble fir (right) is growing at a high elevation in Clackamas County, Oregon. The area has restocked naturally since it was logged about twelve years ago.

4. "Choose-and-Cut" Christmas tree farms are becoming increasingly popular, especially within a radius of about 50 miles of large population centers. Their greatest appeal to customers is family fun in selecting and cutting their own tree. Customers are also assured of getting a fresh tree. From the grower's standpoint, the practice brings retail prices right on the farm and assures against unsold surpluses of cut trees.

5. Growers are giving more attention to Christmas tree genetics. They want to purchase seedlings from the best possible Christmas tree varieties and strains. Many growers are cooperating with researchers by preserving individual plus-trees that can be used in breeding programs or as a source of scion materials for grafting onto native rootstocks.





This Douglas-fir (left) has unusually long and attractive needles that radiate in all directions from the stem. The grower is holding a branch from an ordinary Douglas-fir for comparison. Grafts from unusual trees, such as this, are being propagated to develop improved characteristics in future Christmas trees.

Several clone orchards have been established in Oregon and Washington to propagate, compare, and test the finest individual Christmas tree specimens that can be located in the Pacific Northwest. Superior characteristics include self-shaping, heavy density, rapid development, unusually attractive foliage, or two or more of these factors in combination.

Comments on Christmas Tree Production Tables

Production estimates in Tables 2 and 3 include only Christmas trees that were harvested commercially. The following types of cutting are considered noncommercial:

1. Cut for home use by woodland owners.
2. Donated by woodland owners.
3. Harvested without the owner's permission.

(Continued on page 7.)

Table 2.--CHRISTMAS TREE PRODUCTION BY STATES 1964

Distribution	Total		Oregon		Washington	
	Oregon & Washington		Oregon		Washington	
	No. Trees	%	No. Trees	%	No. Trees	%
Used Within State	885,670	28	300,600	43	585,070	24
Truck Shipments	1,255,000	40	337,000	47	918,000	37
Rail Shipments	918,650	29	72,650	10	846,000	35
Boat Shipments	100,000	3	--	-	100,000	4
Total Produced	3,159,320	100	710,250	100%	2,449,070	100%

Table 3.--CHRISTMAS TREE PRODUCTION BY STATES 1959

Distribution	Total		Oregon		Washington	
	Oregon & Washington		Oregon		Washington	
	No. Trees	%	No. Trees	%	No. Trees	%
Used Within State	810,000	24	295,000	35	515,000	20
Truck Shipments	818,000	24	478,000	56	340,000	14
Rail Shipments	1,717,000	51	77,000	9	1,640,000	65
Boat Shipments	20,000	1	--	-	20,000	1
Total Produced	3,365,000	100%	850,000	100%	2,515,000	100%

The unreported, noncommercial cut in 1964 is estimated to be 77,000 trees in Oregon and 102,000 trees in Washington.

Estimates in Table 3 for 1959 are based on data from the publication "Production and Marketing of Christmas Trees in the Pacific Northwest in 1959". However, the data in that survey included both the commercial and non-commercial production. The figures from the 1959 survey have been adjusted

in Table 3 to include only the commercial production.

Although both States are heavy exporters of Christmas trees, they also imported some of their trees from Idaho, Montana and British Columbia. In 1964, it is estimated that 99,500 trees were imported into Oregon and 69,350 trees into Washington. Imports are not included in the "Used Within State" totals.

OREGON

Table 4.--CHRISTMAS TREE PRODUCTION BY SPECIES AND COUNTIES IN 1964

County	Total	Douglas-fir	Grand Fir	Concolor Fir	Noble Fir	Shasta Fir	Lodgepole Pine	Shore Pine	Other Pine	Other
<u>West Side</u>										
(Number of trees)										
Benton	33,610	29,700	1,100	-	-	500	2,250	60		
Clackamas	112,020	40,200	1,000	-	70,500	300	20			
Clatsop	2,270	900	50	-	250	900	-			170
Columbia	9,900	7,500	1,800	-	400	200	-			
Coos	6,300	900	-	-	-	5,400	-			
Curry	8,550	1,000	-	-	-	7,500	50			
Douglas	98,280	87,800	8,400	-	1,800	-	280			
Hood River	17,700	9,500	4,100	-	4,100	-	-			
Jackson	17,330	9,300	1,500	-	6,400	-	120	10		
Josephine	47,350	40,000	5,200	-	1,300	-	840	10		
Lane	52,050	47,400	3,000	-	200	300	900	250		
Lincoln	4,550	400	600	-	500	700	2,350	-		
Linn	35,450	28,800	2,100	800	2,600	1,000	50	100		
Marion	48,000	35,800	2,700	1,500	6,600	1,100	-	300		
Multnomah	9,800	4,700	-	-	5,100	-	-			
Polk	17,100	12,300	1,200	700	2,700	100	-	100		
Tillamook	16,500	1,000	-	-	15,500	-	-			
Washington	26,900	20,500	4,200	-	1,500	700	-			
Yamhill	9,000	6,700	1,700	-	300	300	-			
West Side Total	572,660	384,400	38,650	3,000	119,750	19,000	6,860	1,000		
<u>East Side</u>										
Baker	9,450	900	-	900	-	6,600	950	100		
Crook	1,000	100	-	900	-	-	-			
Deschutes	2,600	-	-	2,200	-	400	-			
Grant	12,040	400	-	9,600	-	1,800	230	10		
Harney	500	100	-	400	-	-	-			
Jefferson	4,900	2,400	-	2,300	-	-	-	200		
Klamath	33,600	-	-	17,900	8,100	7,300	300	-		
Lake	28,550	-	-	28,500	-	50	-			
Malheur	100	100	-	-	-	-	-			
Morrow	2,100	200	-	1,900	-	-	-			
Umatilla	11,400	5,400	-	3,600	-	1,900	150	350		
Union	5,000	4,000	-	1,000	-	-	-			
Wallowa	1,450	50	-	-	-	500	-	900		
Wasco	21,400	14,400	-	2,300	4,100	-	600	-		
Wheeler	3,500	-	-	3,500	-	-	-			
East Side Total	137,590	28,050	-	75,000	12,200	18,550	2,230	1,560		
Total Oregon	710,250	412,450	38,650	78,000	131,950	37,550	9,090	2,560		
Percent	100.0	58.1	5.4	11.0	18.6	5.3	1.2	0.4		

W A S H I N G T O N

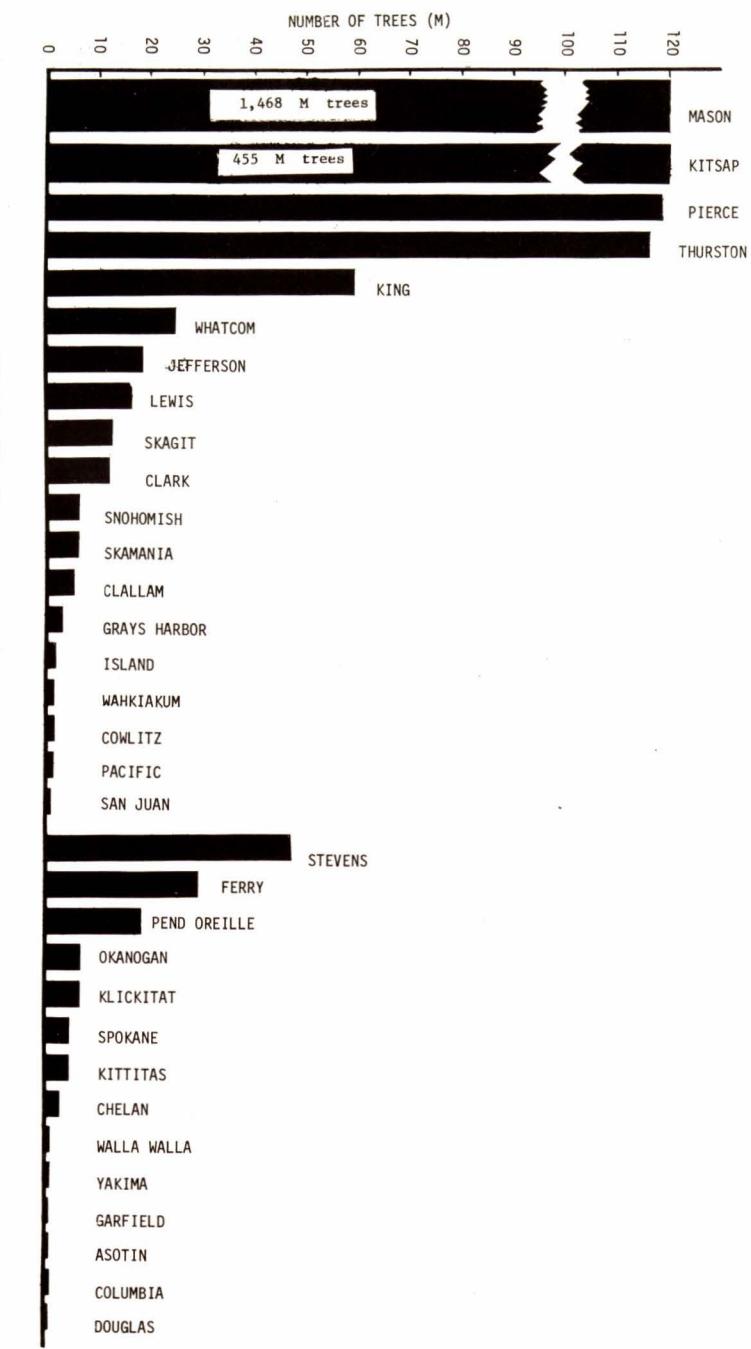
Table 5.--CHRISTMAS TREE PRODUCTION BY SPECIES AND COUNTIES IN 1964

County	Total	Douglas-fir	Grand Fir	Noble Fir & Silver Fir	Shore & Lodgepole Pine	Scotch Pine	Other Pine	Spruce
<u>West Side</u>								
				(Number of trees)				
Clallam	5,300	5,200	-	100	-	-	-	-
Clark	12,000	10,500	500	1,000	-	-	-	-
Cowlitz	1,360	800	-	450	30	80	-	-
Grays Harbor	3,000	3,000	-	-	-	-	-	-
Island	1,550	1,300	150	-	-	-	100	-
Jefferson	18,180	14,750	-	400	3,000	30	-	-
King	59,200	57,700	-	500	400	400	200	-
Kitsap	455,300	448,200	-	-	4,200	-	2,900	-
Lewis	16,350	10,200	1,250	550	600	3,750	-	-
Mason	1,468,500	1,450,000	2,000	500	8,500	-	7,500	-
Pacific	1,300	1,300	-	-	-	-	-	-
Pierce	118,600	105,000	1,000	8,000	1,500	3,100	-	-
San Juan	700	700	-	-	-	-	-	-
Skagit	12,700	8,300	-	4,400	-	-	-	-
Skamania	6,300	5,200	-	1,100	-	-	-	-
Snohomish	6,430	5,000	20	1,000	-	200	100	110
Thurston	114,300	104,000	-	-	-	10,300	-	-
Wahkiakum	1,450	800	-	650	-	-	-	-
Whatcom	24,730	17,300	300	6,700	150	130	150	-
West Side Total	2,327,250	2,249,250	5,220	25,350	18,380	17,990	10,950	110
<u>East Side</u>								
Asotin	230	100	100	-	30	-	-	-
Chelan	2,470	1,800	650	-	-	-	20	-
Columbia	220	100	100	-	20	-	-	-
Douglas	40	40	-	-	-	-	-	-
Ferry	29,300	29,300	-	-	-	-	-	-
Garfield	240	100	130	-	10	-	-	-
Kittitas	4,160	200	1,960	-	1,500	-	-	500
Klickitat	6,450	2,350	3,850	-	-	-	250	-
Okanogan	6,800	6,800	-	-	-	-	-	-
Pend Oreille	18,460	16,700	1,000	-	360	-	-	400
Spokane	4,600	4,250	150	-	100	-	100	-
Stevens	47,050	45,100	1,600	-	50	-	200	100
Walla Walla	900	100	450	-	-	-	250	100
Yakima	900	800	100	-	-	-	-	-
East Side Total	121,820	107,740	10,090	-	2,070	-	820	1,100
Total Wash.	2,449,070	2,356,990	15,310	25,350	20,450	17,990	11,770	1,210
Percent	100.0	96.2	0.6	1.1	0.8	0.7	0.5	0.1

Graph 1.--OREGON CHRISTMAS TREE PRODUCTION BY COUNTY 1964



Graph 2.--WASHINGTON CHRISTMAS TREE PRODUCTION BY COUNTY 1964



OREGON AND WASHINGTON

Table 6.--CHRISTMAS TREE PRODUCTION BY TYPE OF STAND 1964

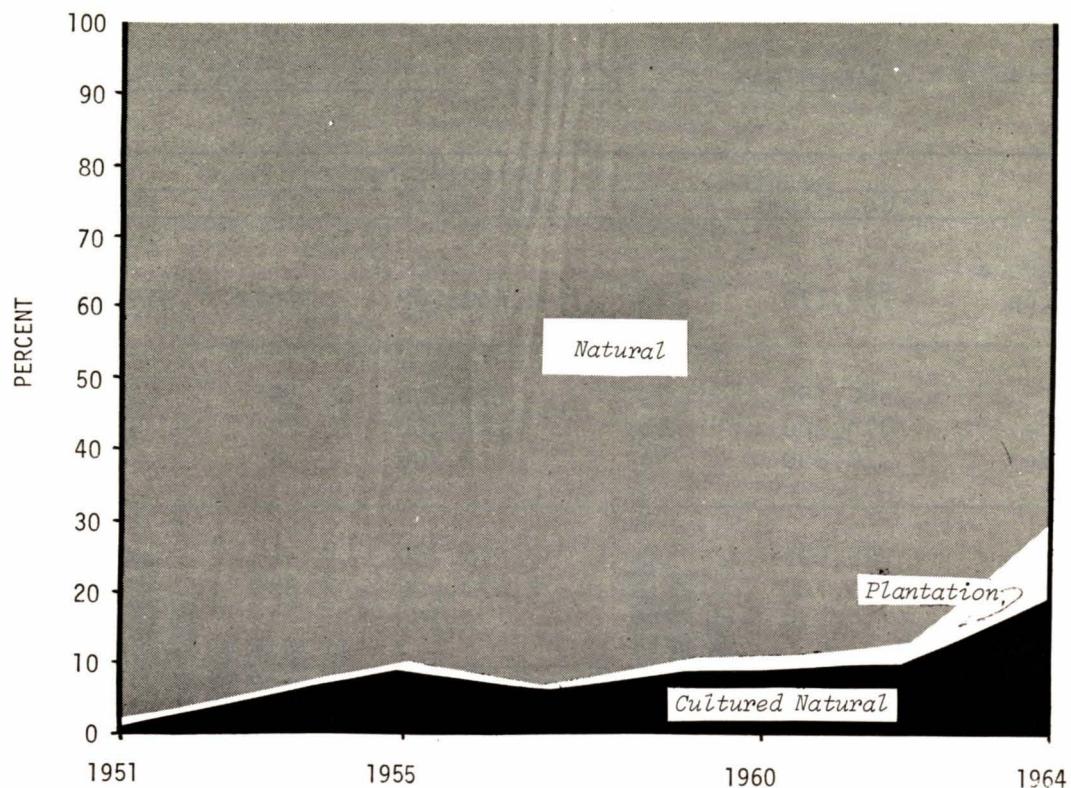
Area	Natural		Cultured Natural		Plantation	
	No. Trees	%	No. Trees	%	No. Trees	%
Total Oregon & Washington	779,170	25	2,209,700	70	170,450	5
Oregon	500,150	70	134,000	19	76,100	11
West Side	370,260	65	126,300	22	76,100	13
East Side	129,890	94	7,700	6	0	0
Washington	279,020	11	2,075,700	85	94,350	4
West Side	159,700	7	2,073,600	89	93,950	4
East Side	119,320	98	2,100	2	400	(1/)

1/ Less than one percent

Production from cultured natural stands and plantations has made significant gains since 1959, as shown in the following comparison:

Area	% Natural		% Cultured Natural		% Plantation	
	1959	1964	1959	1964	1959	1964
Oregon and Washington	57	25	42	70	1	5
Oregon	89	70	9	19	2	11
Washington	46	11	54	85	-	4

Graph 3.--OREGON CHRISTMAS TREE PRODUCTION BY TYPE OF STAND SINCE 1951



Graph 4.--WASHINGTON CHRISTMAS TREE PRODUCTION BY TYPE OF STAND SINCE 1951

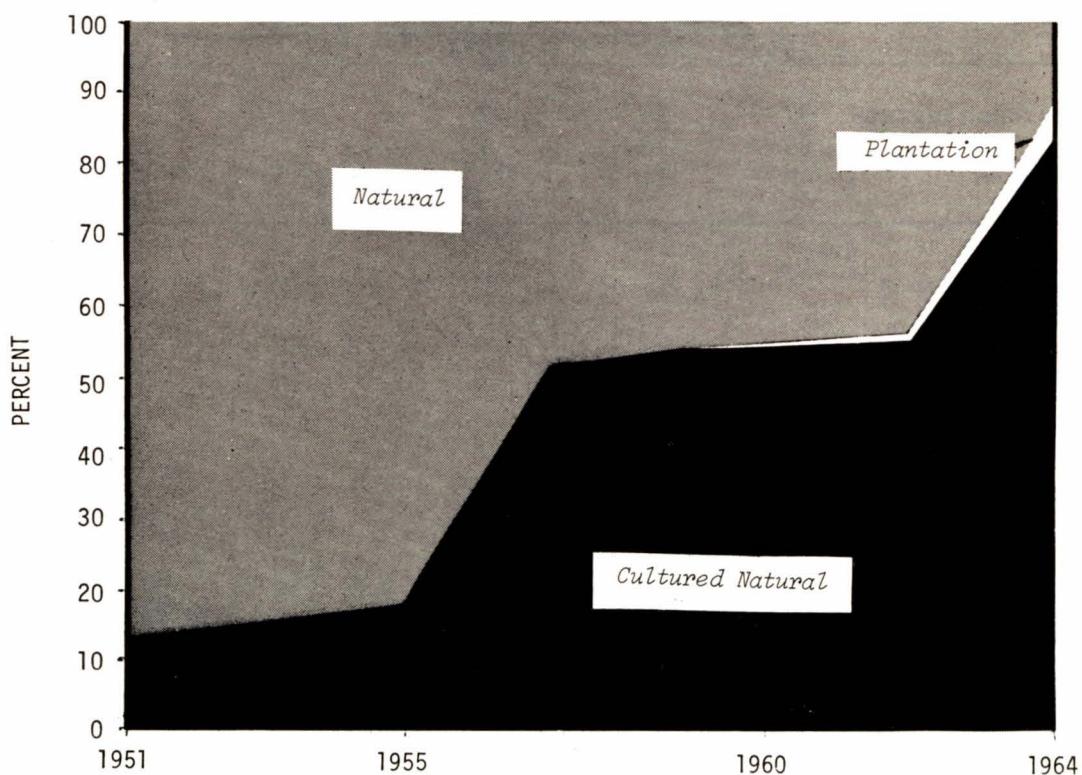


Table 7.--CHRISTMAS TREE PRODUCTION BY OWNERSHIP OREGON & WASHINGTON 1964

Area	Private Land		National Forest		Other Public	
	No. Trees	%	No. Trees	%	No. Trees	%
Oregon	628,500	88	61,850	9	19,900	3
West side	546,260	95	19,800	4	6,600	1
East side	82,240	60	42,050	30	13,300	10
Washington	2,401,450	98	14,100	(1/)	33,520	2
West side	2,288,450	99	8,780	(1/)	30,020	1
East side	113,000	93	5,320	4	3,500	3
Total Ore. & Wash.	3,029,950	96	75,950	2	53,420	2

1/

Less than one percent.

Graph 5.--OREGON CHRISTMAS TREE PRODUCTION BY OWNERSHIP

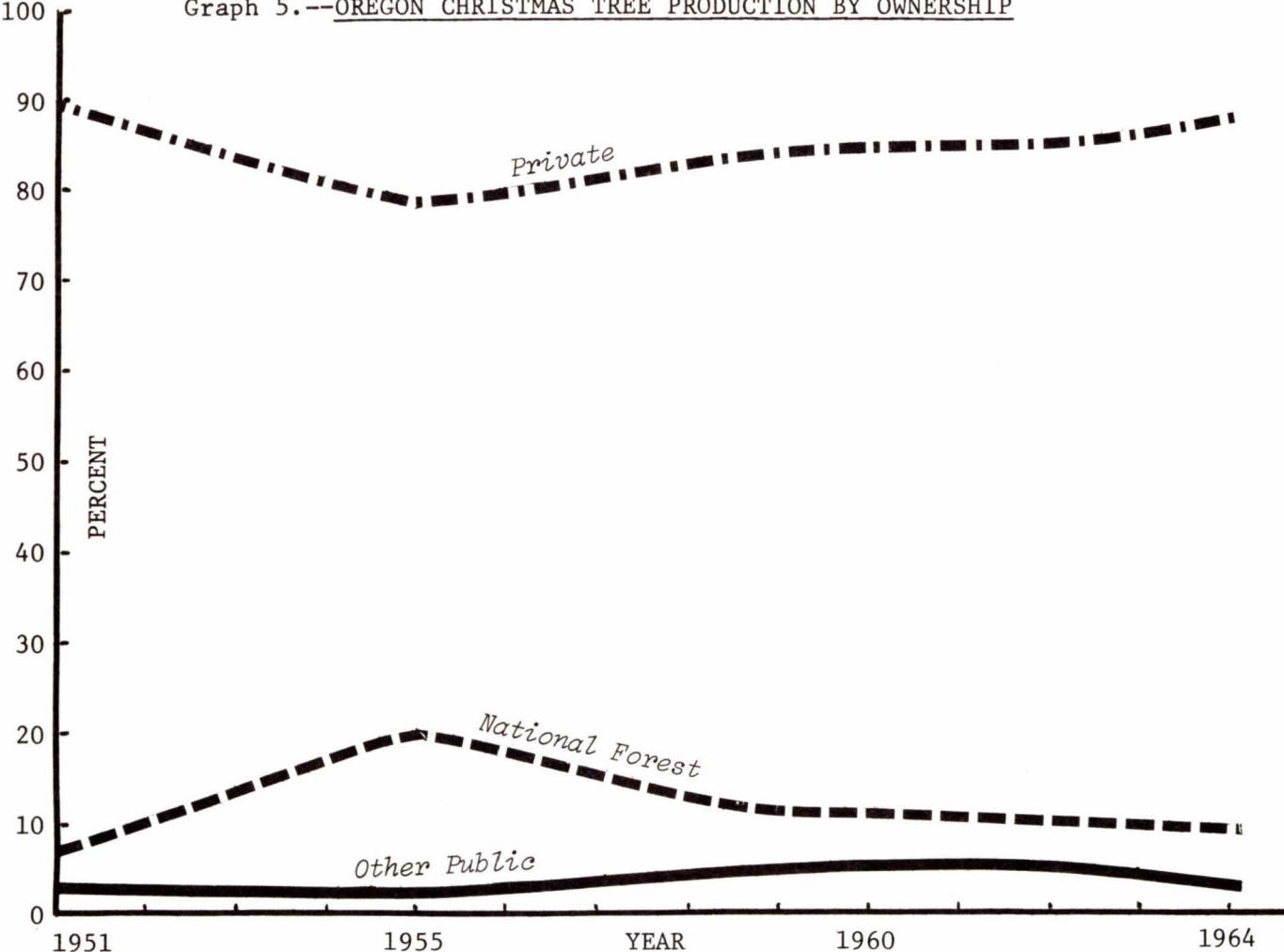


Table 8.--OREGON AND WASHINGTON PRICES FOR A 6-FOOT CHRISTMAS TREE 1964

Species, Uncultured and Cultured, by Marketing Areas	Stumpage		Concentration Yard		Wholesale		Retail	
	Avg.	Range	Avg.	Range	Avg.	Range	Avg.	Range
<u>W. OREGON</u>								
Douglas-fir	Uncult. 1.00	.25 - 1.00	.77 1.15	.50 - 1.00	1.10 1.50	.50 - 1.25	2.52 3.29	1.75 - 4.00
Grand & Concolor Firs	Uncult. 1.27	.30 - 1.25	.95 1.42	.75 - 2.00	1.50 1.80	.70 - 3.00	3.42 4.20	1.50 - 8.00
Noble, Shasta, Silver, & Alpine Firs	Uncult. 1.39	.65 - 3.00	-	-	3.08 2.96	1.25 - 5.00	5.73 5.34	2.50 - 9.00
Lodgepole & Shore Pines	Cult. 1.44	1.00 - 2.00	2.64	1.00 - 4.50	1.92	1.50 - 4.50	4.03 4.35	3.00 - 9.00
Scotch Pine	Uncult. 1.37	1.00 - 2.00	1.45	1.00 - 2.00	2.00	1.25 - 3.00	-	3.00 - 7.00
	Cult. 1.75	-	-	-	1.87	1.25 - 2.40	4.80	3.00 - 6.00
<u>E. OREGON</u>								
Douglas-fir	Uncult. -	.47	.20 - 1.00	-	-	1.21	.90 - 1.75	2.37
Grand and Concolor Firs	Cult. -	-	-	-	-	-	-	-
Lodgepole Pine	Uncult. -	.77	.21 - .94	-	-	1.70	1.00 - 2.75	2.75
Ponderosa Pine	Cult. -	.56	.25 - 1.00	-	-	1.17	1.00 - 1.33	2.65
	Uncult. -	1.37	.50 - .80	-	-	1.00	-	2.17
	Cult. -	-	-	-	-	-	-	-
<u>W. WASHINGTON</u>								
Douglas-fir	Uncult. 1.00	.41	.20 - .75	.67	.25 - 1.25	1.09	.50 - 2.00	2.18
Grand & Concolor Firs	Cult. 1.25	.74	.33 - 2.00	.89	.25 - 1.50	1.45	.88 - 2.00	2.91
Noble, Silver & Alpine Firs	Uncult. 1.75	1.18	1.00 - 1.35	-	-	1.80	1.50 - 3.00	4.37
Lodgepole & Shore Pines	Cult. 1.00	.47	.25 - .75	.75	.60 - .90	2.23	1.60 - 3.50	3.50
Scotch Pine	Uncult. 1.30	.80	1.00 - 1.50	1.05	.60 - 1.50	2.08	1.00 - 3.00	3.95
	Cult. 1.30	-	-	-	-	2.47	2.25 - 3.60	4.60
<u>E. WASHINGTON</u>								
Douglas-fir	Uncult. -	.40	.10 - 1.00	-	-	1.30	.60 - 1.75	2.85
Grand Fir	Cult. -	.55	.15 - 1.00	-	-	-	-	-
Lodgepole Pine	Uncult. -	.50	-	-	-	1.60	1.50 - 1.75	3.35
Ponderosa Pine	Cult. -	.30	.15 - .50	-	-	1.50	-	3.00
	Uncult. -	-	-	-	-	-	-	2.20 - 4.50
	Cult. -	-	-	-	-	-	-	-

COMMENTS ON ABOVE TABULATION OF
CHRISTMAS TREE PRICES

DEFINITIONS

Stumpage is the price paid to the grower for his standing, uncut Christmas trees.

Concentration Yard Price is the delivered price paid by wholesalers at their processing areas. Here, trees are sorted by heights and grades, bundled, butt-trimmed, and loaded into trucks or rail cars for shipment to wholesalers and retailers.

Wholesale Price is the delivered price

paid by retailers for their trees, whether they are purchased directly from a grower, from a concentration yard, or from a wholesaler.

Retail Price is that paid by the consumer at a retail lot, store, or other place of business where trees are retailed.

Derivation of Average Prices. Average prices at various selling levels represent the numerical unweighted averages reported for all counties in each marketing area. Cultured trees were generally of higher quality than uncultured trees and, therefore, were higher priced.

PRICE DIFFERENCES BETWEEN VARIOUS SPECIES

Douglas-fir, the principal Christmas tree species in Oregon and Washington (88% of the total cut) carried the lowest average price tag. Low price reflects its abundant supply, rapid growth, and comparatively low production and handling costs. Douglas-fir is the traditionally preferred species for most Pacific Northwest families. It is doubtful that lowering the price of competing species would cause a great shift in consumer preference.

The high elevation true firs, of which noble fir is the principal species, are the highest priced Christmas trees. Wholesale and retail prices of these species average 2 to 3 times greater than for Douglas-fir. This is caused by limited supply, increased harvesting costs in mountainous terrain, and the increased cost of shipping these heavy, bulky trees. Their stiff, formal branching habit, open whorls for pendulant ornamentation, and excellent needle retention make them the number two choice of consumers in spite of relatively high cost.

Prices for other Christmas tree species tended to be intermediate between those of Douglas-fir and the high elevation true firs.

PRICE DIFFERENCES FOR THE SAME SPECIES

A rather wide price range was found for every species at all selling levels. The greatest single influence on price was tree quality. Quality is determined principally by shape, symmetry, density of needles and branches, color, and fresh-cut appearance. The Agricultural Marketing Service of the U.S. Department of Agriculture has prepared "U.S. Standards for Grades of Christmas Trees" which recognize and define three different grades. Although not widely used yet by the Christmas tree industry, these standards form a workable and objective measure for quality. Most of the larger Christmas tree companies have

already set up their own grading systems. Unfortunately, they are not standardized and vary from one company to another. Widespread use of the U.S. Standards should benefit both buyers and sellers by enabling them to talk in common terms when negotiating a sale.

Other price influences for a given species include harvesting costs, accessibility as related to transportation costs, local supply and demand, overhead factors, and economic circumstances of buyers. Retail prices in larger cities tend to be higher than in small towns. Also average prices tended to be somewhat higher in Oregon than in Washington. This was partly caused by the large number of "99¢" cut-rate trees of low quality offered on big city lots in Washington.

Coniferous Christmas Boughs

Christmas boughs are described as those that are cut for the Christmas holiday season. Uses include indoor and outdoor commercial displays, street decorations, wreaths, door swags, mantel pieces and many other decorative and specialty items.



Noble fir boughs from the mountains of western Oregon are being crated for shipment. This species is popular for wreaths, door swags, and other Christmas decorations.

The most popular species for Christmas boughs are known collectively as the "high elevation true firs". The principal species in this group is noble fir, which grows in the high Cascade and Coast Mountains of both states. It is noted for its good needle retention, symmetrical arrangement of branchlets, and heavy fragrant needles. Four other species of high elevation true firs--silver, alpine, shasta red, and concolor--somewhat resemble noble fir, and are cut for the same purposes. Silver and alpine firs are found in the mountains of both states. Shasta red fir grows in southwestern Oregon, and concolor fir grows in both eastern and southwestern

Oregon. Flattened, well-shaped branch tips 24" to 36" in length brought the highest price to pickers--about 8¢ to 11¢ per pound. Large quantities of shorter wreath material 18" to 24" in length were also gathered. These brought about 1¢ to 8¢ per pound to pickers, depending on quality and branch size.

Next species in importance for Christmas boughs were the cedars. Port-Orford-cedar, which grows near the coast in southwestern Oregon, is considered the elite of all cedar boughs. Its lacey, attractive foliage is in yearlong demand by florists, as well as in seasonal demand for Christmas boughs. A root disease is taking a heavy toll of Port-Orford-cedar trees, and will likely result in reduced future availability of this species. The two other cedars used for Christmas boughs are Western redcedar, which is native to both states, and incense cedar, which is restricted to Oregon. The primary decorative use of cedar boughs is for roping, which utilizes lengths of about 18" to 24". It is also used for wreaths, door swags, and many other decorative specialties. Price to pickers was about 5¢ to 8½¢ per pound for Port-Orford-cedar and about 2½¢ to 8¢ per pound for other cedars.

Several species of pine are cut for Christmas boughs but to a much more limited extent than true firs and cedars. Pines have attractive foliage and good needle retention, but are in strong competition with pine boughs cut in many other parts of the country. Commercial species are ponderosa pine, lodgepole pine, shore pine, western white pine, and sugar pine.

Douglas-fir has limited commercial demand for Christmas boughs. Due to relatively poor needle retention, it must be cut late in the season and is seldom shipped out of the Pacific Northwest.

Rocky Mountain juniper, a native of Eastern Oregon, is used to some extent for Christmas decorations and

specialties. Spraying with gold paint gives juniper boughs a striking gold bead appearance.

OREGON AND WASHINGTON

Table 9.--CONIFEROUS CHRISTMAS BOUGH PRODUCTION BY SPECIES AND COUNTIES 1964

State and County	:	Noble, Shasta Douglas fir	:	Silver, Alpine, Concolor Firs	:	Cedars	:	Pines	:	Juniper
OREGON	-----	Number	of	-----	pounds-----					
Benton		3,800		60		140		-		-
Clackamas		-		190,880		-		-		-
Clatsop		18,800		2,000		-		500		-
Columbia		-		2,200		-		-		-
Coos		1,200		-		130,810		3,500		-
Curry		-		-		82,870		-		-
Douglas		1,000		2,000		-		-		-
Hood River		9,300		-		-		-		-
Josephine		3,500		-		-		-		-
Lane		1,000		-		3,200		1,400		-
Linn		3,000		28,000		1,000		2,000		-
Multnomah		-		5,260		-		-		-
Polk		-		71,040		-		-		-
Tillamook		-		23,000		4,820		-		-
Washington		-		10,000		-		-		-
Deschutes		1,000		4,000		-		4,800		10,000
Jefferson		-		8,000		5,000		-		-
Klamath		1,000		500		-		-		-
Wasco		-		80,000		24,000		-		3,000
<u>Total Oregon</u>	<u>43,600</u>		<u>426,940</u>			<u>251,840</u>		<u>12,200</u>		<u>13,000</u>
<hr/>										
<u>WASHINGTON</u>										
Clallam	-	2,000		-		-		-		-
Clark	-	20,000		-		-		-		-
Cowlitz	-	30,000		10,500		-		-		-
Grays Harbor	-	20,000		25,000		-		-		-
Island	-	-		2,000		4,000		-		-
Jefferson	-	2,000		1,000		-		-		-
King	-	56,000		1,600		-		-		-
Kitsap	200	-		-		-		-		-
Lewis	-	28,000		46,600		-		-		-
Mason	-	9,930		25,000		13,150		-		-
Pacific	-	-		3,600		-		-		-
Pierce	-	189,670		17,000		10,000		-		-
Skagit	100	5,000		2,000		-		-		-
Thurston	-	2,850		56,000		160		-		-
Wahkiakum	-	7,000		2,100		-		-		-
Whatcom	-	-		2,000		-		-		-
Chelan	8,800	-		-		-		-		-
Spokane	1,000	-		-		-		-		-
<u>Total Wash.</u>	<u>10,100</u>		<u>372,450</u>			<u>194,400</u>		<u>27,310</u>		<u>-</u>
<hr/>										
TOTAL OREGON & WASHINGTON	53,700		799,390			446,240		39,510		13,000
<hr/>										

Floral Greenery

The cool, temperate-marine forests of western Oregon and Washington produce a lush understory growth of native shrubs, ferns and other plants. Certain of these species produce sprays of attractive, durable foliage that are highly prized by the florist trade throughout the Nation.

Picking sprays of floral greenery provides full-time work and is the principal source of income for many rural families. Thousands of others, such as loggers, fishermen, farmers, housewives, and people from many other walks of life, pick floral greenery to supplement their regular income.

Pickers must be in good physical condition and able to move about rapidly in rough, brushy country. They must also have the ability and know-how to locate suitable greenery and harvest it properly.

Some greenery pickers harvest entirely from their own land, but most of them lease the exclusive picking rights from other landowners. Leasing for a period of several years gives the picker incentive to improve the quality and productivity of greenery brush and fern patches by conservative picking and proper pruning methods. Most species produce better floral greenery under partial forest shade than in either heavy shade or open sunlight. A properly thinned forest usually produces a desirable degree of shade. Therefore, production of floral greenery and timber are quite compatible on the same area.

Harvesting floral greenery begins in July after the new growth has hardened off and continues until the following spring when the new succulent growth begins. Pickers deliver their greenery in bundles or bunches to local packing sheds. Here, it is washed,

sorted, and packed in boxes for shipment in refrigerated cars to wholesale florists in various parts of the country.

Principal species of floral greenery are described below:



Exclusive fern picking rights under this stand of old-growth hemlock have been leased by this professional picker. Heavy rainfall and moderate overhead shade provide ideal fern growing conditions in this Olympic Peninsula area.

SWORD FERN

This large evergreen fern reaches its most luxuriant growth under older stands of fir, hemlock and spruce on the Olympic Peninsula, Coast Range and west slope of the Cascades. The fronds make a beautiful background for funeral sprays and other floral arrangements. Near-perfect fronds are picked 24 to 26-inches long using a special small, curved knife that is attached to a ring that fits over the finger. Cut fronds are bound together with twine at their stripped bases into flat bunches of 52.

Fern pickers carry the bundles from the woods rolled in burlap or laid flat on a packboard to protect them from injury and drying.

EVERGREEN HUCKLEBERRY

This is an erect shrub 4 to 8-feet in height. It has glossy, egg-shaped, finely-toothed leaves about 3/4 to 1½ inches in length. Cut sprays lend themselves well to many types of floral arrangements. This shrub also produces edible black huckleberries for home and commercial use. Best development is reached in the Puget Sound area and coastal areas of Oregon and Washington. Flat, fan-shaped sprays 15 to 30-inches long are snapped off by hand. Desirable growth and color characteristics are found under the partial shade of forest trees. Older plants with heavy stems should be pruned back heavily to encourage new growth which produces the most attractive sprays. Insect and disease damage to leaves is sometimes sufficient to make the sprays unsalable.



Standard size bunches of evergreen huckleberry (above) and salal (right above) are displayed at a packing plant near Lake Bay, Washington. Florists prefer flat, fan-shaped sprays such as these.

Most brush pickers assemble and tie the brush in large bundles for carrying out of the woods. These are delivered to the packing plant for sorting, trimming and tieing into small standard size bunches which weigh 1-7/8 pounds wet and 1-5/8 pounds dry. Some experienced brush pickers sort and tie their own standard bunches before delivery.

A variation of evergreen huckleberry, called "red huckleberry" by the industry, has a much more limited demand than the flattened, green sprays described below. It is picked during the winter months from shrubs growing in open sunlight where the leaves turn red and the stems form straight, erect spikes. These lend themselves well in certain types of floral arrangements.

SALAL

The salal plant is a low evergreen shrub with thick, leathery, glossy, lemon-shaped leaves about 2 to 4-inches in length. It reaches its best development for floral greenery in the same



general areas where evergreen huckleberry is found. In addition, it is found in the interior valleys and west slopes of the Cascades. Like the other floral greenery species, salal requires partial shade to produce a bright green color and flattened sprays.

Brown spot disease (*Phyllosticta*) is usually the limiting factor in determining whether a spray of salal is merchantable. This disease causes unsightly dead spots on the leaf surface. Several species of insect larvae are also troublesome. They feed on the leaves, causing holes or discoloration. Salal is used by the floral industry in a similar manner to huckleberry. Its harvesting and marketing procedures are also quite similar.

OTHER FLORAL GREENERY SPECIES

In addition to the "big three" species already mentioned, a more limited market exists for Port-Orford-cedar, Oregon grape and Scotch broom.



This is the type of Port-Orford-cedar bough that florists and decorators demand. Note the flat lacy arrangement of needles and the symmetrical, pointed shape.

Port-Orford-cedar is a native of the coast and coastal mountain areas of southwestern Oregon. Flattened sprays from the branch tips are harvested during the dormant season in lengths of 24 to 28 inches and shipped in 2-pound bunches. Greatest demand for Port-Orford-cedar boughs is for greens, decorations, and specialties during the Christmas season. However, there is also a yearlong demand for this product by the florist trade.

Oregon grape is a low forest shrub with prickly, holly-like leaves arranged oppositely on a single stem. A limited number are harvested for decorative use by florists.

Scotch broom is a native of Europe that has escaped from cultivation and has become a major pest to many landowners. The erect green spikes with tiny leaves find favor in some types of flower arrangements.

MOSS

Moss grows in heavy mats, or layers, on the trunks and limbs of maple trees. Growth is especially luxuriant at low elevations where annual precipitation is heavy. Gatherers strip the dry moss from trees during the summer months, carry it out of the woods in large burlap sheets or bags, and store it in a well ventilated barn or other shelter. When it is thoroughly dry, the moss is compressed into bales for shipment to wholesale florists and other buyers. Moss is valued for its decorative and water-retention characteristics. It is used commercially in construction of hanging floral baskets and philodendron columns. It is also used as a surface mulch in greenhouses and as a packing material in fishing worm containers.



This portable baler is used to compress and bind dry moss into 25-pound rectangular bales.

OREGON & WASHINGTON

Table 10.--FLORAL GREENERY SPECIFICATIONS AND PRICES 1964

Product	Specifications					Price	
	Unit	Dry	Weight	Length of Pieces	No. of Pieces	Range	Avg.
Huckleberry, regular	Bunch		1-5/8#	12"-28"		25¢-33¢	26¢
Huckleberry, red-leaved	"		2#	15"-36"		25¢-33¢	26¢
Salal, regular	"		1-5/8#	12"-28"		25¢-35¢	26¢
Salal, short	"		1#	15"-20"		16¢-25¢	18¢
Sword Fern, regular	"			25"-28"	52	15¢-25¢	19¢
Sword Fern, long	"			31"-33"	22	9¢-11¢	10¢
Oregon Grape	"			15"-20"	25		10¢
Scotch Broom	"		2#	30"-40"			20¢
Port Orford Cedar	"		2#	24"-28"			14¢
Moss	Bale		25#			\$2.00-\$3.25	\$2.25

OREGON AND WASHINGTON

Table 11.--FLORAL GREENERY PRODUCTION BY SPECIES AND COUNTY 1964

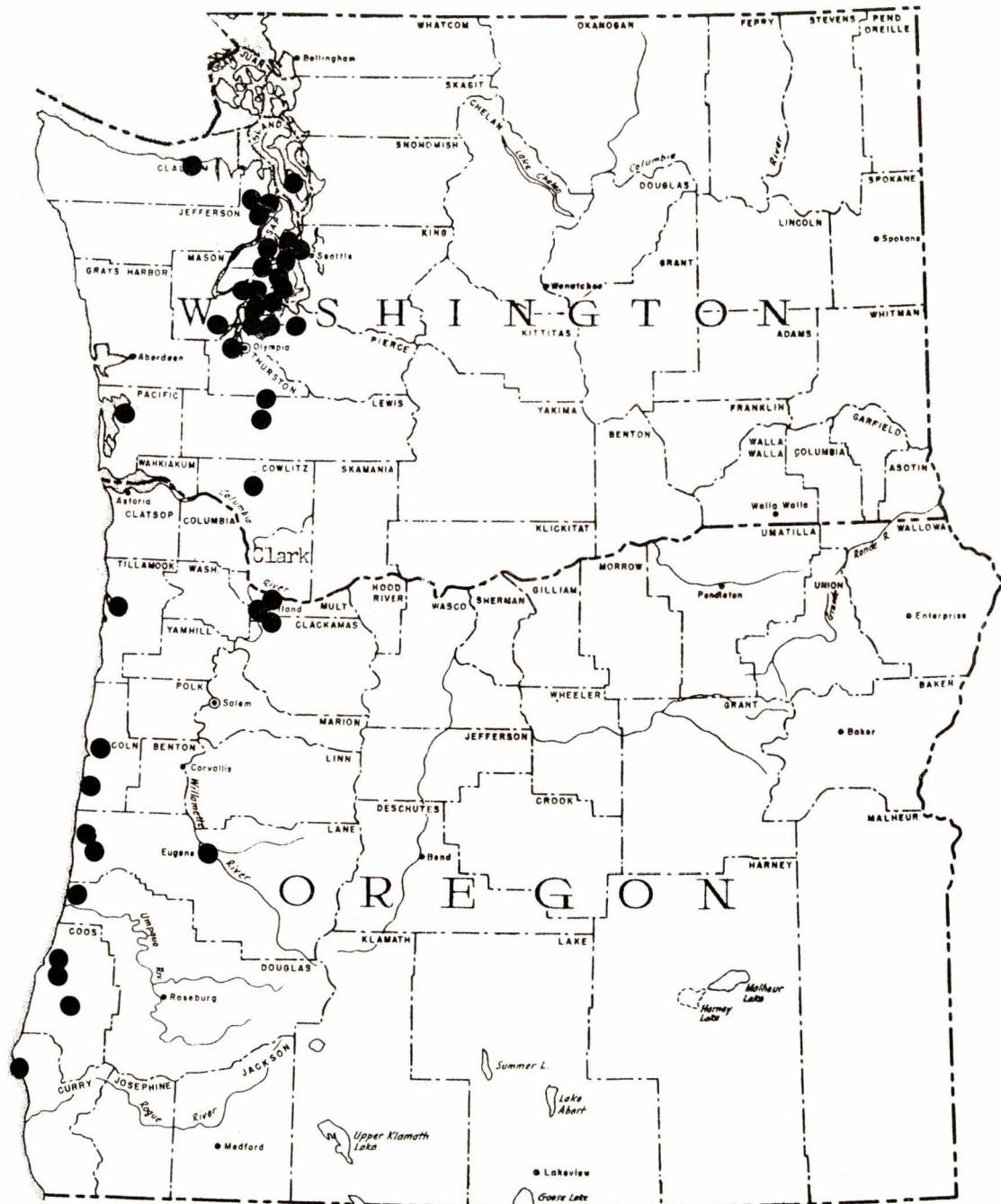
State and County	Huckle- berry (green- leaved)	Huckle- berry (red- leaved)	Salal	Sword Fern	Oregon Grape	Scotch Broom	Port Orford Cedar	Moss No. of Bales
<u>OREGON</u>								
Benton					3,000			
Clackamas					100,000	500	1,000	
Clatsop	16,000		5,000		55,000			
Columbia					2,000			
Coos	276,000		15,000		190,000			92,000
Curry	142,000		12,000		140,000			45,000
Douglas	70,000		1,000		69,000			14,000
Lane	207,000		19,000		400,000		15,000	1,100
Lincoln	103,000		36,000		186,000			360
Linn						500		400
Multnomah					5,000			
Polk					5,000			
Tillamook	57,000		18,000		240,000	7,000	1,000	30
Oregon Total	871,000		106,000		1,395,000	8,000	17,000	151,000
<u>WASHINGTON</u>								
Clallam	8,700		207,500		73,000			
Cowlitz					294,000			167
Grays Harbor	90,000		30,000		125,000	4,500		240
Island	33,800		23,000					
Jefferson	301,000		235,000		48,500			
King								
Kitsap	1,050,000	17,500	477,400					
Lewis			40,000		670,000			67
Mason	600,000	17,500	300,000		99,400		1,600	50
Pacific	105,000		10,000		600,000	3,000		160
Pierce	550,000		295,500		40,000	3,300	7,200	
Skagit			12,000		80,000	5,000	500	
Skamania								
Thurston	19,000		40,000		14,500		200	60
Wahkiakum					65,000			34
Whatcom					5,000	300	200	
Washington Total	2,757,500	35,000	1,670,400	2,114,400	16,100	9,700		778
ORE. & WASH. TOTAL	3,628,500	35,000	1,776,400	3,509,400	24,100	26,700	151,000	2,668

MARKET TRENDS FOR FLORAL GREENERY

Demand for sword fern has been declining somewhat over the past ten years. This is attributed to competition from cedar boughs and a fern-like palm imported from Mexico. However, representatives of the floral greenery industry believe that sword fern will hold its own because of its unique form and beauty.

Demand for evergreen huckleberry is gradually increasing. Demand for salal is increasing quite rapidly--more than any other species. However, most of the salal to fill this expanding demand will likely come from western British Columbia, where the brown spot disease appears to be less prevalent than in Oregon and Washington.

MAP SHOWING LOCATIONS OF FLORAL GREENERY PROCESSING PLANTS 1964



Native Transplants

Northwest landscape gardening is making greater use each year of native nursery stock. Many of these are becoming standard items at nurseries and garden stores.



The branches of this shore pine have been compacted with twine. A circular cut is being made around the base of the tree. Next, it will be lifted with roots intact and balled in the square of burlap.

One of the favorite native species is shore pine, which is found along much of the Oregon Coast line within a mile or two of the Pacific Ocean. Contorted, windswept forms are in demand for bonsai gardens, and normal specimens for less formal effects. Small native trees are dug, with a circle of earth and roots intact, and balled in burlap. Other popular conifers dug for transplants are alpine fir, mountain hemlock, noble fir, and ponderosa pine.

Native rhododendrons are also popular for their large evergreen leaves and showy, pink or reddish-colored flower clusters. Transplants of this species are becoming a popular sale item at roadside stands on the Olympic Peninsula and other areas where it grows naturally and attracts the eye of travelers.

Other native transplants include azalea, salal, evergreen huckleberry, blueberry and vine maple. Estimates of volumes and prices paid to diggers for various species are shown below.

OREGON AND WASHINGTON
Table 12.-- NATIVE TRANSPLANT PRODUCTION BY SPECIES, 1964

Species	Unit Price	Oregon	Washington	Total
Conifers	\$1.-\$4. each	3,800	3,993	7,793
Rhododendrons	\$1.-\$4. each		800	800
Salal	\$.35 each	10,000		10,000
Azalea	\$1.-\$5. each		100	100
Huckleberry	\$.50 each	10,000		10,000
Vine Maple	\$1. each		70	70
Blueberry	\$1.50 each		100	100
Miscellaneous	\$1.-\$2.50 each	350	5,500	5,850

Split Cedar Products

Split cedar products combine durability and rustic beauty. Salable products can be split from chunks, slabs, and other salvage type cedar that are too small or irregular in shape for saw logs. This includes residue materials on recent clearcuts, old snags, windfalls, and partially burned logs and chunks from early day logging operations where cedar was not fully utilized.

Splitters of cedar products require very little capital outlay--often only a saw, mallet, froe and pickup truck. They earn their living and contribute to the general economy by utilizing wood that would otherwise be left in the woods and wasted.

Information on the more important types of split cedar products follows:

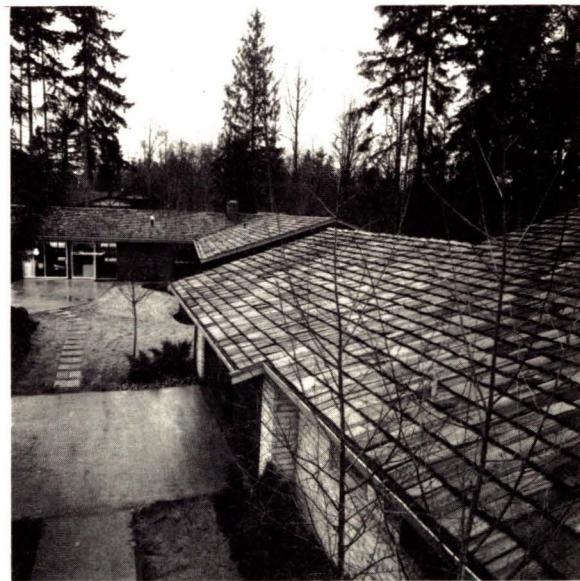
HAND SPLIT REDCEDAR SHAKES*

Practically all hand split shakes are made from old growth Western redcedar. Early day Pacific Northwest settlers--and the Indians before them--recognized the durability, rustic beauty, and good splitting characteristics of this species. Shakes are enjoying a new upsurge in popularity for roofing and siding modern buildings. They are especially popular in the southwestern states. Rustic charm is combined with good insulating properties to help keep homes cool in summer and warm in winter. Shake roofs suffered little damage during the October 1962 windstorm, which caused extensive damage to composition roofs in Western Oregon and Washington.

Hand split redcedar shake production in 1964 was about 10% greater than for the previous year, and about 400% greater than for 1957. Production by states and in British Columbia is shown below:

	<u>Squares Produced</u>	<u>% of Total Production</u>
Oregon	226,000	7
Washington	1,967,000	66
Idaho	44,000	1
British Columbia	812,000	26
	3,049,000	100%

This report includes production in Oregon and Washington, which together accounted for about 73% of the total redcedar shake production in 1964. There are 161 shake mills in Washington and 46 mills in Oregon. These mills employed about 1,500 workers, provided an annual payroll of about \$7.5 million, and turned out about \$31½ million (mill value) worth of shakes.



* Shake statistics used in this report are based on a survey of the shake industry for the "Redcedar Shingle and Handsplit Shake Bureau" by James M. Teshera. This survey, which covered calendar year 1963, was projected for 1964 production.

Handsplits shake roofs on modern homes are a symbol of quality because of their durability, and distinctive appearance.

A breakdown of Oregon and Washington production by type of shake is shown below:

Type of Shake	1964 PRODUCTION IN SQUARES			
	Oregon	Washington	Ore. & Wash.	%
Resawn hand split	161,000	1,814,000	1,975,000	90
Taper split	62,000	142,000	204,000	9
Straight split	3,000	11,000	14,000	1
Totals	226,000	1,967,000	2,193,000	100%

Shakes are produced from both logs and salvage. This report is concerned with that portion produced from salvage, such as chunks, old snags and windfalls, and other nonsaw log sources. Salvage accounted for about 68% of total shake production in Oregon, and about 17% in Washington. About three-fourths of the shake mills in the two states, including most of the smaller ones, depended entirely on salvage for their cedar supply. An additional 15% of the mills depended on mixed logs and salvage.

A large proportion of salvage cedar is brought to the mill as "shake boards", which are also called "shake blanks".

These are mallet- and froe-split rectangles of cedar, usually 24 inches long, 2½ inches thick, and 4 inches to 12 inches wide in random widths. Board splitters are paid about 8 to 11¢ per board delivered at the mill, based on average board width of 6 inches.

Each shake board is resplit at the mill into two equal size thinner boards. The thinner 1¼ inch boards are then sawn diagonally and edgewise on a band saw to produce two tapered hand split, resawn shakes with split faces and sawn backs. They are made up into strapped bundles, similar to those for sawn cedar shingles. Approximately 48 shakes make 1 bundle, and 5 bundles make 1 square.

Table 13.--ORIGINS OF SHAKE CEDAR OREGON AND WASHINGTON BY COUNTIES 1964

County	M Squares of Shakes			% Salvage
	: Logs & Salvage	: Salvage Only	:	
<u>OREGON</u>				
Columbia, Multnomah and Washington	30	26		88
Tillamook and Yamhill	59	51		86
Benton, Lincoln, Lane, Marion & Polk	73	28		38
Coos and Curry	64	49		77
Oregon Total	226	144		68
<u>WASHINGTON</u>				
Whatcom	65	10		16
Skagit	231	12		5
King and Snohomish	332	60		18
Clallam	110	21		19
Mason and Jefferson	226	36		16
Grays Harbor	670	114		17
Pierce and Thurston	11	5		50
Lewis	71	23		32
Pacific	124	-		0
Cowlitz and Wahkiakum	110	43		39
Spokane and Pend Oreille	17	17		100
Washington Total	1,967	341		17
OREGON & WASHINGTON TOTAL	2,193	495		23

Thus, about 60 to 70 shake boards, depending on width, are required to produce a square of shakes. A square of shakes covers 100 square feet of surface.

Salvage cedar has been bucked into 24 inch lengths and is being split into shake boards. The mallet and froe shake splitting technique used today is the same as used 100 years ago.



Table 14.--COMMERCIAL SPLIT CEDAR FENCE POSTS AND HOP POLE PRODUCTION

OREGON AND WASHINGTON BY COUNTIES 1964

OREGON			WASHINGTON				
County	: No.	Fence Posts : Avg. Price	County	: No.	Fence Posts : Avg. Price	Hop Poles : No. : Avg. Price	
<u>West Side</u>							
Benton	4,500	0.40	Clallam	2,550	0.40	3,000	1.50
Clackamas	16,200	0.35	Clark	5,000	-	-	-
Clatsop	1,000	-	Grays Harbor	23,500	0.50	9,000	1.35
Coos	1,150	0.30	King	300	0.50	-	-
Curry	900	0.30	Lewis	6,400	0.35	-	-
Douglas	2,200	0.30	Mason	800	-	-	-
Hood River	3,900	0.30	Pacific	3,200	0.55	9,000	1.40
Lane	71,850	0.30	Pierce	550	0.35	-	-
Linn	49,950	0.35	Skagit	2,000	0.25	-	-
Marion	33,400	0.35	Snohomish	17,600	0.30	-	-
Multnomah	500	0.35	Whatcom	1,200	0.35	-	-
Washington	500	-	<u>East Side</u>				
			Pend Oreille	45,650	0.35	-	-
			Spokane	60,000	0.30	-	-
			Yakima	15,000	0.32	-	-
Totals	186,050	0.33	Totals	183,750	0.33	21,000	1.39

SPLIT FENCE POSTS

Western redcedar is by far the leading species in the Pacific Northwest for split fence posts. Smaller quantities of incense cedar, Port-Orford-cedar, Alaska yellow cedar, juniper, Pacific yew, black locust, and redwood are used where Western redcedar does not grow.

Cedar that is too rough and knotty for shakes may be utilized for fence posts. The sapwood is susceptible to rapid decay and should be trimmed off.

Average service life of Western redcedar fence posts is about 10 to 25 years, depending on soil and climatic conditions. Durability tests made in the Corvallis, Oregon, area showed an average service life of 14 years for incense cedar, 20 years for Port-Orford-cedar, and longer than 20 years for Western redcedar, Alaska yellow-cedar, redwood, black locust, and yew. Standard post dimensions are 6 to 8 feet long, with those of the split faces 6 to 7 inches wide.

SPLIT CEDAR HOP POLES

Split cedar hop poles are 20 feet long, and must have at least three faces 7 inches wide. Most of them are produced in western Washington and utilized in the Yakima Valley in eastern Washington. Prices for split cedar hop poles are about 2½ times greater than for round-wood poles, which have a shorter service life.

OTHER SPLIT CEDAR PRODUCTS

Production estimates were not obtained for most of the miscellaneous split cedar products described below. Their production is smaller and more scattered than for the previously described split cedar products.

Fence rails are in demand for ranchettes and suburban building areas. Common sizes are 2 inches by 2 inches and 3 inches by 4 inches in 6 foot to 16 foot lengths. Some home owners prefer the rustic effect of old mossy fence rails to those that are freshly split.

Split fence pickets are another rustic product in current demand. Common sizes are 1/2 inch to 1 inch thick, up to 2 inches wide, and 3 feet to 8 feet long.

Hand split, resawn level siding is in limited demand for rustic buildings. Common sizes are 1 inch to 1½ inches thick, 8 inches to 12 inches wide, and 4 feet to 20 feet long.

Bean poles, grape stakes, tomato stakes, and engineering stakes are examples of small dimension split cedar products. Cedar kindling is sold in small bundles to start fires. It is most frequently a by-product from splitting shake blanks and other cedar products.

Arrow bolts are split from clear pieces of Port-Orford-cedar about 36 inches long. An estimated 1,460 cords were cut from dead salvage materials in Coos County in southwestern Oregon in 1964. Price per cord to the cutter was \$55 - \$120. Port-Orford-cedar is the principal wood used by arrow shaft manufacturers. They saw the arrow bolts into thin slats, which are formed into finished arrow shafts by automatic moulding machines and lathes.

Noncommercial split cedar for home use, although not included in this report, is important to many rural families. One has only to drive into the country to observe the tremendous number of cedar fence posts, rail fences, culverts, shake roofs, and other split cedar products that are produced by home owners for their own use.

Small Roundwood Products

This report is limited to small roundwood products less than 25 feet in length. Saw logs, peelers, pulpwood, piling, and larger commercial poles are not included.

Also excluded from this report are roundwood products that do not go through commercial channels, i.e., products cut by landowners for their own use or to give away.

SMALL ROUNDWOOD CONSTRUCTION AND UTILITY POLES

For use in this report, small roundwood poles are defined as 10 to 24 feet in length and of various diameters. Those that are exposed to moisture in use are usually peeled and treated with preservatives to increase their service life.



Machine peeled Douglas-fir poles are used in this prefabricated carport near Shelton, Washington. Corrugated, translucent fiberglass will be used for the roof.

The principal use is for upright construction poles, beams, rafters, and other building components. Next most important use is for small utility poles. Other uses include corral poles, small boat docks, and general purpose poles.

Post and pole yards pay the cutter \$0.35 to \$1.80 per pole, depending on dimension, quality, species, and whether they are purchased peeled or unpeeled as "barkies".

ROUNDWOOD POSTS

In this report, roundwood posts are defined as less than 10 feet in length and of various diameters.

The principal use is for fence posts. Wood treating companies purchase poles in 6 to 8 foot lengths and 3 to 5 inch top diameters. They are usually purchased as "barkies" (unpeeled) and machine-peeled at the yard; but some buyers specify hand peeling by the cutter. The peeled poles are seasoned and usually treated with wood preservatives. Pine is very permeable and can be effectively treated by open tank soak methods. Fir, hemlock, spruce, and other coniferous species require pressure treatment for adequate penetration and retention of preservatives. Tests have shown that creosote or pentachlorophenol treated fence posts have a greater service life than that of split cedar.

Other uses of roundwood posts include corral posts, guardrail posts, gateposts, and clothesline posts. Most types are purchased as barkies, then peeled and treated with wood preservatives at a wood treating plant. Untreated roundwood of all species,

even cedar, has a short service life when exposed to moisture because of its outer shell of decay-susceptible sapwood.

Price to the cutter is \$0.20 - \$1.00 per post (average \$0.35 for a 7-foot fence post barkie) depending on the size and whether they are purchased peeled or unpeeled.



Fence posts and construction poles are the principal products at this plant in northeastern Washington. Lodgepole pine "barkies" are machine-peeled, air dried, and treated with penta by the hot and cold soak method.

ROUNDWOOD HOP POLES

Hop production centers in the Pacific Northwest are the Yakima Valley in eastern Washington and the Rogue River and Willamette Valleys in Oregon. Growers use hop poles to support the network of wire and string on which the hops climb. Untreated roundwood, although less durable, is in greater demand than split cedar for hop poles. Reason is lower cost, easier handling, and greater availability.

Preferred species are Douglas-fir and lodgepole pine. Favorite cutting areas are low site poletimber stands where the trees are crowded, straight, and free of large limbs. Hop poles are normally cut to a length of 19 - 20 feet, minimum top diameter of 4 inches, and butt diameter of 5 - 8 inches. The bark is usually not removed.

Price to the cutter is about \$0.50 - \$1.35 (average \$0.60) per pole.

CAR STAKES

Car stakes are used to hold loads on railroad flat cars. Green Douglas-fir is normally the required species. They are cut to a length of 10 to 12 feet, minimum top diameter of 4 to 4½ inches, and maximum butt diameter of 7 to 8 inches. They are not peeled.

Price to the cutter is about \$0.30 - \$0.60 (average \$0.50) per stake for barkies.



Car stakes are cut from a young stand of Douglas-fir. Salvage and sale of this material helps defray the cost of thinning such stands.

MINE PROPS

Douglas-fir is the preferred species. Lengths are 4 to 7 feet and top diameters are 4 to 7 inches. Price to the cutter is about \$0.08 to \$0.17 per prop for barkies. Present production is mainly from King County, Washington.

PLUG POLES

Paper mill plugs are turned from red alder poles on automatic lathes. They are short, tapered cylinders with a round center hole. The plugs are

inserted into the ends of paper rolls to provide a core and bearing to permit the rolls to spin.

Plug mills purchase barkie alder poles in lengths of $8\frac{1}{2}$ to 11 feet and diameter of $3\frac{1}{2}$ to 6 inches. Price to the cutter averages about 25¢ per pole.

CABIN LOGS

Log cabins are popular on summer home and vacation sites. Some processors prefabricate the logs and other building components so that they are ready to assemble on the building site. Hand peeling of logs is preferred to

machine peeling to give the logs a more natural look. Price per log to the cutter varies from \$0.16 for small lodgepole pine on the east side to \$0.85 for larger Douglas-fir logs on the west side.

OTHER SMALL ROUNDWOOD PRODUCTS

Unestimated smaller quantities of small commercial roundwood are used for rustic furniture, rake teeth, troller poles, snow stakes, fence stays, oyster bed stakes, smelter poles, dock fenders (camel logs), turning rounds for novelty items, ship knees, and many other similar products.

OREGON & WASHINGTON

Table 15.--COMMERCIAL SMALL ROUNDWOOD PRODUCTION 1964

STATE AND COUNTY	Misc. Small Poles		Misc. Posts		Hop Poles		Orchard Props		Car Stakes		Cabin Logs		Mine Props		Plug Poles	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
<u>OREGON</u>																
<u>West Side</u>																
Benton	1,135	\$1.20	-	-	-	-	300	\$.50	4,160	\$.60	-	-	-	-	-	-
Clackamas	16,300	-	-	-	500	\$1.10	-	-	6,000	.45	-	-	-	-	-	-
Coos	-	-	-	-	-	-	-	-	100	.50	-	-	-	-	-	-
Douglas	-	-	-	-	-	-	-	-	5,500	.50	-	-	-	-	-	-
Hood River	3,380	1.40	-	-	-	-	3,000	.25	1,000	.55	-	-	-	-	-	-
Jackson	1,450	-	7,000	-	-	-	-	-	-	-	-	-	-	-	-	-
Josephine	5,000	-	4,000	\$.50	-	-	500	1.50	-	-	-	-	-	-	-	-
Lane	-	-	-	-	-	-	-	-	5,500	.50	-	-	-	-	-	-
Lincoln	-	-	-	-	-	-	-	-	2,000	.50	-	-	-	-	-	-
Marion	-	-	-	-	1,000	.90-1.35	-	-	-	-	-	-	-	-	-	-
<u>East Side</u>																
Baker	7,330	-	1,830	-	-	-	-	-	-	-	500	-	-	-	-	-
Crook	-	-	700	-	-	-	-	-	-	-	-	-	-	-	-	-
Deschutes	8,140	-	994	-	4,000	-	-	-	-	-	-	-	-	-	-	-
Grant	5,410	.55	2,270	.45	-	-	-	-	-	-	-	-	-	-	-	-
Harney	1,330	.55	2,400	.10-.45	-	-	-	-	-	-	-	-	-	-	-	-
Jefferson	1,445	-	2,060	-	-	-	-	-	-	-	-	-	-	-	-	-
Klamath	2,000	-	2,000	.50	4,000	-	-	-	-	-	-	-	-	-	-	-
Umatilla	2,040	-	3,500	-	3,000	-	-	-	-	-	-	-	-	-	-	-
Wallowa	460	-	7,800	.50	-	-	-	-	-	-	-	-	-	-	-	-
Wasco	1,200	1.40	-	-	-	-	1,000	.20	2,000	.55	-	-	-	-	-	-
Total Oregon	56,620		34,554		12,500		4,800		26,260		500		-		-	
<u>WASHINGTON</u>																
<u>West Side</u>																
Cowlitz	200	.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grays Harbor	4,000	.50	7,500	\$.55	6,000	.55	4,000	.20	-	-	-	-	52,000	\$.08-.17	-	-
King	-	-	-	-	-	-	-	-	6,000	.55	-	-	-	-	-	-
Lewis	-	-	-	-	4,580	.60	-	-	500	.60	-	-	-	-	-	-
Mason	13,190	-	6,600	-	4,130	.60	-	-	600	.60	-	-	-	-	-	-
Pacific	200	.50	350	.50	1,100	.75	-	-	-	-	-	-	-	3,500	\$.24	-
Pierce	2,000	.75	-	-	-	-	-	-	1,000	.60	1,500	\$.85	-	-	-	-
Skagit	-	-	-	-	-	-	-	-	500	.48	-	-	-	40,000	.25	-
Snohomish	-	-	-	-	1,000	.50	-	-	6,500	-	-	-	-	-	-	-
Thurston	-	-	-	-	12,000	.60	-	-	-	-	-	-	-	-	-	-
Whatcom	250	-	600	.35	-	-	-	-	-	-	-	-	-	-	-	-
<u>East Side</u>																
Chelan	-	-	-	-	-	-	9,500	.07	-	-	-	-	-	-	-	-
Okanogan	6,680	.40-.50	18,570	.20-.50	-	-	10,300	.03-.25	-	-	1,248	.16	-	-	-	-
Pend Oreille	11,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spokane	3,000	.35	200	1.00	400	-	-	-	1,500	.30	-	-	-	-	-	-
Stevens	400	1.80	72,000	.17-.55	10,000	-	500	.10	-	-	-	-	-	-	-	-
Yakima	5,500	.50	800	.40	1,500	1.15	-	-	-	-	-	-	-	-	-	-
Total Washington	46,920		106,620		40,710		24,300		16,600		2,748		52,000		43,500	
TOTAL OREGON & WASHINGTON	103,540		141,174		53,210		29,100		42,860		3,248		52,000		43,500	

Fuelwood

Fuelwood, as used in this report, is that cut from whole trees or unmerchantable logs, as distinguished from slabwood, presto logs and other fuelwoods obtained as a by-product of wood-using industries. Slabwood and presto log usage probably exceeds that of roundwood. However, the ever-increasing demand for pulp chips and manufactured board aggregates from mill waste is steadily reducing the supply. This should increase the future demand for fuelwood from trees and logs.

Fuelwood consumption has dropped tremendously since the early part of the century. This was largely caused by substitution of cheaper, cleaner, and more convenient types of fuel. Further decline in fuelwood consumption for heating and cooking purposes is inevitable, particularly in urban homes. Still, a steady demand exists, and seems likely to continue, for fireplace wood. A fireplace seems to be a "must" item for most modern homes. There is something cheerful, appealing and heart-warming about logs burning in the home fireplace, especially during festive occasions and cold winter evenings.

CHARCOAL CORDWOOD

Charcoal is enjoying an upsurge of popularity for barbecue cooking at home and in restaurants. Practically all the charcoal consumed in the Pacific Northwest is shipped in from the hardwood regions east of the Mississippi River. However, several charcoal kilns have operated in Oregon and Washington at various times using red alder, bigleaf maple, oak and madrone. Competition is very keen in the charcoal industry and kilns utilizing alder and soft maple had difficulty competing with the denser charcoals produced from hickory, oak, maple and other eastern hardwoods. Present charcoal production is limited to small production in southwestern Oregon where dense, high quality charcoal is produced from madrone and oak cordwood. Approximately 200,000 pounds of charcoal, with a wholesale value of 6¢ per pound, was sold in 1964. About 80% of the charcoal was purchased by restaurants and hotels that specialize in barbecue cooking.

Table 16.--FUELWOOD PRODUCTION OREGON AND WASHINGTON 1964

Product	: Unit Price	:	Oregon	:	Washington	:	Total
Fuel Cordwood	\$12 - \$20/cord		21,755 cords		69,055 cords		90,810 cords
Charcoal Cordwood	\$16/cord		250 cords				250 cords

Crude Drugs

Indians and early pioneers recognized the medicinal value of many plants found in the forests of Oregon and Washington. The modern drug industry has also made use of this resource. For many years forest trees and plants were the major source of many important drugs used in medicine. However, as more synthetic substitutes and the antibiotic type drugs were developed, demand for crude drugs from the forests has gradually declined.

Foxglove leaves were at one time the only source of digitalis, an important heart medicine, but synthetic manufacture has virtually eliminated its demand in the Pacific Northwest crude-drug market. Demand for wild ginger and skunk cabbage roots has also died. An intermittent and limited market still exists for Prince's pine, Oregon grape root and Douglas-fir pitch, but the future for these products is quite uncertain.

Most important of the crude-drug products is cascara bark. This is peeled from a small tree that grows in western Oregon and Washington. Its commercial range extends into northern California and southern British Columbia, but is centered in Oregon and Washington. Extracts from this bark have been used since pioneer days, and by the Indians before that, as a safe and effective laxative. However, its production has gradually dropped from a high of 5 million pounds in 1947 to less than 2 million pounds in 1964. Average market price for dried bark fluctuated with supply and demand from a low of 6 cents per pound in 1940 to a high of 30 cents in 1947. Average price in 1964 was about 17 cents. A limited quantity is also purchased green for about one-third the price paid for the dried bark. The collecting season is limited to spring and early summer when the bark slips and can be easily peeled off in sheets with a knife or spud. Good management practices

require felling the tree to a 6-inch high, unpeeled stump as part of the operation. This method of stump culture permits the roots to live and produce new sprouts for a future crop.

Buyers require the bark to be clean and free of lichens, moss, water stains, and mould. The dried bark is broken into small pieces and sold in burlap sacks. Buyers purchase cascara bark at feed stores and other places of business in rural areas where cascara trees grow in commercial quantities.



These quinine conks are stored at the buying station until dry. The weathered outer layer will be trimmed before the conks are sold to crude-drug firms.

Quinine conk, sometimes called Agaric, is in steady demand by several crude-drug firms. Only conks of the quinine fungus (*Fomes lericis*) are salable. These are found growing on snags, windfalls and decadent old-growth trees of Douglas-fir, ponderosa pine, sugar pine and Western larch. They are identified by their cylindrical, hoof-like shape, and the annual growth layers on the under side. With age, they become quite elongated and are chalky and crumbly.

Quinine conks are rather uncommon and difficult to find. Favorite picking spots are large snags in old burns and logging operations in decadent old-growth timber. Some conks attain a weight of 50 or more pounds and are a real bonanza to loggers, woodsmen and others who find them. This conk, which is widespread in Europe as well as North America, was at one time the principal source of quinine. It is now used in other products as well, including deodorants.

Demand for Douglas-fir pitch is limited and fluctuates greatly. It is used in paint, soap, India ink and as a substitute for Canada balsam in optical work. The method of collecting is unique. Collectors become expert at picking out trees that are likely to contain internal pitch seams. These are usually wind-shaken, old-growth trees growing on exposed, wind-swept ridges. Prospective trees are tapped by boring a hole into the base of the trunk. A pipe is inserted to drain the pitch into a container. Exceptionally good pitch trees yield more than 50 gallons of pitch.

Oregon grape root is used in medicines. Dried roots of either the tall Oregon

grape (*Mahonia aquifolium*) or shorter Oregon grape (*Mahonia nervosa*) are salable. However, the demand is quite limited and it is purchased only intermittently by local crude-drug firms.

Prince's pine (*Chimaphila umbellata*) is another native plant in limited demand for use in medicines. This is a low evergreen herb common in many forest areas. The whole plant (roots, stems, and leaves) is pulled up, cleaned and dried for sale.

Scotch broom is a European shrub that has escaped from cultivation. It is easily identified by its bright yellow flowers, green spike-like stems and tiny clover-like leaves. The aggressive growing and spreading habits of the shrub have made it a major problem on open nonforested lands. Considerable demand existed in 1964 for green boughs from which chemicals were extracted. However, a better source of the same chemicals is derived from a foreign plant species. A temporary shortage of these chemicals in 1964 was said to have been caused by political instability in the country of origin. Therefore, market demand for Scotch broom may not reoccur for some time.

Table 17.--CRUDE-DRUG PRODUCTION OREGON AND WASHINGTON 1964

Product	Price per pound ^{1/}		Pounds Produced		Total
	Average	Range	Oregon	Washington	
Cascara Bark	17¢	12 - 18¢	800,000	1,000,000	1,800,000
Quinine Conk	25¢	12 - 85¢	10,000	34,000	44,000
Oregon Grape Root	13¢	12 - 15¢	2,500	-	2,500
Prince's Pine	25¢	20 - 35¢	2,500	-	2,500
Scotch Broom					
Boughs (green)	5¢	-	100,000	200,000	300,000
Douglas-fir Pitch					
(gallons)	\$1.20	-	300	-	300

^{1/}Pitch is sold by the gallon, Scotch Broom by green weight, all others by dry weight.

Forest Seed Cones

Tree seed is very much in demand for reforestation in Oregon and Washington. Seed of the coniferous species is produced in cones. Therefore, cones with the ripe seed in them are a valuable "special forest product".

About ten forest seed companies in Oregon and Washington purchase cones to extract and process seeds. In addition, several of the larger timber companies and federal and state land-managing agencies purchase seed cones from specified areas. These seeds are used in tree nurseries, for aerial seeding of cutover lands and burns (which requires a large amount of seed) and for export to foreign countries.

Cone-bearing trees do not produce a crop each year. Depending on the species a cone crop may occur 3, 4, or even 5 years apart. The crop may also be spotty from one area to another. A given area may produce cones of a certain species one year and of another species the following year. Cone buyers, therefore, try to buy sufficient quantities during the periodic good cone years to supply demands through several lean years. Besides being easier to gather in a good year, the cones contain a greater number of sound seed and fewer seed-eating insects.

Cone buyers usually set up local buying stations during the picking season, which starts about the middle of August at low elevations and extends to about the first of November at high elevations. Cone collectors should obtain complete information from the buyer before starting to pick. Seed origin requirements by cone buyers are very exacting for each species in demand. The geographical and elevational origin of seed trees determines the inherited ability of their seedlings to grow well under certain climatic and soil conditions.

Instructions for seed-count testing, determining ripeness and caring for the picked cones prior to delivery are freely given. Pickers must also obtain the landowner's permission and check with the fire warden on fire regulations, entry permits and closures.



The burlap sack is being filled with Douglas-fir seed cones. Two bushels per sack is the standard unit of measurement for cone collectors.

Picking cones may be done in several ways. One method is to climb standing trees and pick the cones from the branches. Another is to pick cones from trees freshly felled in logging, land clearing, or road construction operations. A third, and perhaps most productive method is gathering cones from the ground where squirrels have dropped them or stored them in nearby hidden caches. The latter method requires considerable woodsmanship to locate the caches.

Good seed years often occur several years apart. Therefore, we deemed it unrealistic to report 1964 as a typical seed cone year for all species. Instead, we consulted with cone buyers and obtained their estimates of approximate total cone production that could be expected during a recent seed year for each species. These estimates are shown in Table 18.

The estimated actual 1964 cone harvest in Oregon and Washington is 500,000 bushels of Douglas-fir, 10,000 bushels

of ponderosa pine, 10,000 bushels of grand fir, 6,000 bushels of Sitka spruce, and 11,000 bushels of various other species. A generally poor seed year was experienced for noble fir and hemlock.

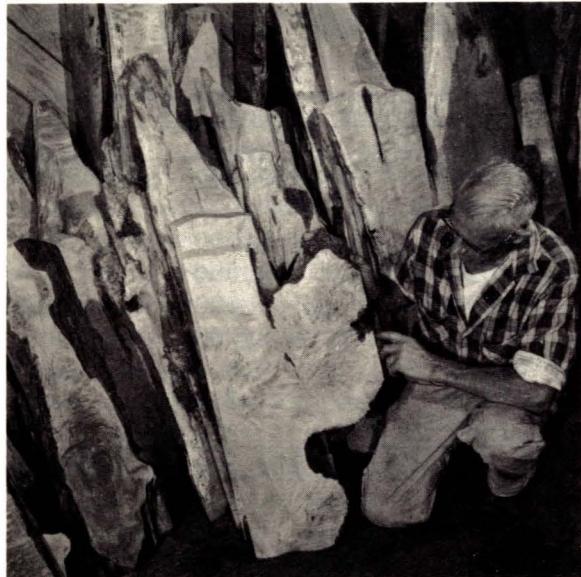
Prices per bushel paid to the picker are also shown. It is important to note that these prices will vary a great deal by both year and area. Principal factors that affect price are cone quality, cone origin requirements, crop year conditions, and conditions that affect ease of collecting.

Table 18.--COMMERCIAL SEED CONE PRODUCTION ESTIMATES OREGON & WASHINGTON
DURING RECENT PERIODICAL SEED YEARS

Species	Price per Bushel		Number of Bushels			
	Average	Range	Total	Ore. & Wash.	Oregon	Washington
Douglas-fir	\$2.50	\$1.50 - \$3.00	500,000	350,000	350,000	150,000
Ponderosa Pine	1.50	1.00 - 2.00	11,000	7,000	7,000	4,000
Sugar Pine	1.00	.75 - 1.50	3,000	3,000	3,000	-
Noble Fir	1.50	1.40 - 2.50	15,000	10,000	10,000	5,000
Grand Fir	1.50	1.00 - 2.50	10,000	5,000	5,000	5,000
Concolor Fir	1.50	1.00 - 2.50	2,000	2,000	2,000	-
Sitka Spruce	1.50	1.00 - 2.00	6,000	2,000	2,000	4,000
Engelmann Spruce	2.50	2.00 - 3.00	500	250	250	250
Western Hemlock	7.50	6.00 - 10.00	500	250	250	250
Total			548,000	379,500	379,500	168,500

Other Special Forest Products

A great many additional special forest products were not included in the volume estimates. Some of these are locally quite important, but difficult to estimate for quantity and values. Others are uncommon, and their uses are appreciated by relatively few people. Some are gathered both commercially and for home use. Others are gathered strictly for home use. The more important of these additional special forest products are described below.



These beautifully grained bigleaf maple and Oregon myrtle boards will be used for table tops. Special care in seasoning is required to prevent checking and warping.

DECORATIVE WOODS

Bigleaf maple occasionally produces highly figured wood variously classified as "burls", "burl clusters", "fiddle back", or "quilt". Approximately equal quantities are cut in the western parts of Oregon and Washington. Northwest export firms pay cutters about 4¢ per

pound green weight for trimmed burls and short logs of figured wood. Some 500 tons a year are shipped to Europe for slicing into fancy veneers. Figured maple is also manufactured locally into gunstocks, table tops, novelty woodenware, and other products featuring beauty in wood.

Oregon myrtle is another popular decorative hardwood. Its commercial range is limited to southwestern Oregon and northwestern California. Attractive colorations and grain effects make it a favorite for gunstocks, wooden bowls, lamps, trays, carvings, and many other wooden items of outstanding beauty. These are popular sale items in gift stores and roadside novelty shops.

Juniper is a common softwood tree of the arid areas of eastern Oregon. The gnarled, twisted trunks contain interesting grain effects and colorations. This wood, too, is used for wood turnery and manufacture of various novelty wooden wares.

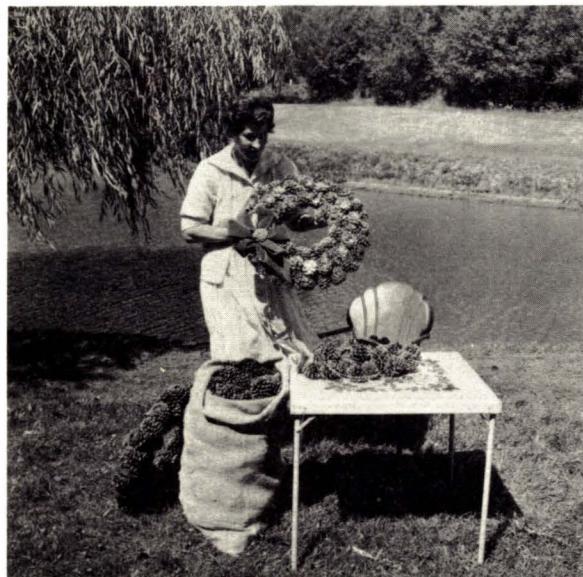
RUSTIC WOODS

A great many people with artistic or creative talents pick up pieces of rustic wood from forests, river bars, lake fronts, and ocean beaches. Many of these are strikingly beautiful for floral arrangements, table centerpieces, natural sculptures, landscape pieces, and other displays. Some people make a business of collecting and selling these materials to landscapers, florist shops, or to the public along important tourist roads.

Smaller decorative items from the forest also find favor for various kinds of decorative arrangements. These include twisted, red manzanita branches, mossy limbs, various types of seed pods, and wild flowers.

DECORATIVE CONES

Dried cones are used in wreaths, centerpieces, floral arrangements, and novelty items. Cones can be picked from trees or gathered on the ground after they have shed their seed and fallen. Shiniest, most attractive cones are gathered in late fall before becoming stained and darkened through prolonged exposures to weather. A few forest seed companies use special methods of seed extraction that do not tumble and damage the cones for decorative use. Most popular species of decorative cones are sugar pine, ponderosa pine, lodgepole pine, and Douglas-fir.



This newly-created cone wreath was formed by fastening ponderosa pine cones to a circular wire frame. A large plastic ribbon gives it a festive touch.

MISTLETOE

This parasitical evergreen shrub grows on branches of oak trees in western Oregon. Mistletoe twigs, with their bright green leathery leaves and greenish-white berries, are one of our traditional Christmas season decorations. They are gathered in November and usually displayed and sold in small plastic bags.

MULCHING MATERIALS

Forests and woodlands provide a wealth of organic mulching materials for homeowners, landscapers, nurserymen, and others who work with soils. These include peat moss, forest moss, leaf mould, organic top soils, and forest surface litter such as needles and decayed wood.

SMOKEWOOD

Both home and commercial smokers of meat and fish recognize several species of wood that impart a delicious flavor and aroma. Good smokewood is sweet and free from resins, gums, and disagreeable tastes or odors. A favorite smokewood since the pioneer days (and of the Indians before that era) is vine maple. This small, crooked, vine-like tree forms a dense understory in many of our west side forests. Other favorite native smokewoods are red alder, bigleaf maple and wild crabapple.

PITCHWOOD

Resinous species, such as Douglas-fir and ponderosa pine, sometimes produce wood that is completely saturated with pitch. When stumps of these species decay, the decay-resistant spines of pitchwood are all that remain. Pitchwood burns hot and quickly, making it a favorite kindling material for campers, woodsmen, and rural people who use wood for fuel.

WILD HUCKLEBERRIES

Huckleberries are picked both commercially and for home use. A popular commercial species is the evergreen huckleberry--the same species used for decorative greenery. The berries are sometimes stripped from the bushes by hand, but a more productive picking method is shaking the branches over a large, open container. Processing plants separate the good berries from the debris in a fan mill. Pickers are

paid about 8 - 10¢ per pound for the cleaned berries. Several other species of huckleberry, including coast, red, and mountain, are popular for homemade preserves, pies, and deserts.



A commercial picker gathers evergreen huckleberries in a large washtub suspended from his shoulders. He holds the berry-laden branches over the tub and beats them with his gloved hand to dislodge the ripe berries.

WILD BLACKBERRIES

The native trailing wild blackberry is justly famous for its high desert qualities. Berry breeders have endeavored to capture its distinctive flavor by hybridizing it with standard domesticated varieties. Popular hybrids from these crosses include Cascade, Chehalem, and Marion. Trailing wild blackberry vines develop good berry crops in open burns, logged areas, and field fence rows. Specialty restaurants purchase the fresh or frozen berries for making the delicious and world-renowned "West Coast wild blackberry pies". Countless thousands of gallons are also picked each year by homeowners to use fresh for preserves and deserts or stored in home freezers for winter use.

Two European blackberries, evergreen and Himalaya, have escaped from cultivation and form heavy clumps in old

fields, creek bottoms, and other rural areas. Hundreds of tons are picked commercially each year in western Oregon and Washington, and sold to canneries and frozen food plants. Average price to the picker in 1964 was 14¢ per pound. The principal use for wild evergreen and Himalaya blackberries is juice stock for jams, jellies, and syrups.

WILD MUSHROOMS

A large variety of edible mushrooms are found in the fields and forests of Oregon and Washington. These are not picked commercially, but provide an interesting hobby and delicious gourmet-type food product for many families. People of Japanese ancestry are especially knowledgeable and appreciative of the fine eating qualities of mushrooms that grow in organic litter and top soil of the forest floor. These include edible species of the genera *Boletus*, *Chanterelle*, *Russula*, and *Armillaria*. Several deadly poisonous varieties of mushrooms are also found intermingled with the edible varieties. Therefore, picking mushrooms is not recommended for amateurs who are not completely familiar with their identification.

OTHER EDIBLE FOREST PRODUCTS

The following are not gathered commercially, but do provide interesting and unique food items to many families.

The Klamath plum is a delicious native fruit found on bushes or small trees growing in portions of southeastern Oregon. It is eaten fresh, canned, and used for preserves. Some cultivated orchards have been established in Klamath and Lake Counties.

Blue elderberries and choke cherries grow on both sides of the Cascades. They make tart, tasty homemade jellies. Other berries picked for home use are wild currants, wild gooseberries, salal berries, Oregon grape, wild blackcaps, thimbleberries, and salmonberries.

Hazelnuts are the principal native nut crop. They resemble small filberts,

and are a long-time favorite of Northwest families for candies, cooking, or just plain eating.

A number of forest grown plants provide edible greens. They are not widely known, or used for food. However, many wild greens are both tasty and nutritious, and are worthy of greater use. Edible greens include nettle shoots, leafstalks of colt's foot, sheep sorrel, tender salmonberry shoots, and dandelion leaves.

There are many other special forest products. Most of these are of a minor and noncommercial type. How many times have we cut a walking stick while hiking in the forest? Or made a willow fishing pole, yew bow, vine maple slingshot crotch, or elderberry bean shooter for a small boy? Or watched a little girl make a garland of forest greenery and wild flowers? Even these are special and precious products to the people who use and enjoy them.



Not all special forest products are of a commercial nature. Here, youngsters learn about conservation in an outdoor classroom.

Summary

Special forest products provide about 15 million dollars a year business to growers, pickers or cutters in Oregon and Washington. Financial and employment benefits are multiplied when the raw products pass through the hands of people in related industries such as processing, transportation, wholesaling, retailing, construction and exporting.

Ultimately, the consumer also benefits through use and enjoyment of these valuable, and sometimes unusual forest products.

Special forest products--like gold--are where you find them. However, their production seems to be concentrated in certain areas west of the Cascades. Christmas trees, salal and huckleberry floral greenery and live transplants are frequently associated with low site forest lands. Lands of this type in the southern Puget Sound area and certain areas of the Pacific Coastal strips were formerly considered of low value because of slow timber growth and poor agricultural type soils. Today, their value often exceeds that of highly productive timber lands because of high and quick returns from Christmas trees or floral greenery that can be harvested from them every few years.

High site lands that produce rapid tree growth also provide a good share of special forest products. Examples are split cedar products, crude drugs, decorated woods and sword fern. Other products, such as coniferous Christmas boughs, seed cones and fuel woods, are associated with many different forest sites.

Good management practices can increase production of special forest products, the same as for growing timber. Christmas tree growers are making increased use of more refined cultural

practices such as thinning, basal pruning, shearing, chemical weed control and fertilizing. Pickers of floral greenery and coniferous boughs find that quantity and quality of yield can be improved by avoiding overpicking, cutting back old growth, providing the proper degree of overhead shade, and fertilizing. Judicious harvesting of some types of products, such as fuelwoods, small roundwood and live transplants may actually benefit the timber trees by relieving them from competition. Many landowners are encouraged by early periodic income from sale of special forest products to hold onto the land until the timber becomes merchantable.

Harvesters should realize that special forest products are not free for the taking. They are private property, the same as timber or farm crops. The owner's permission must be obtained to harvest them. State and local laws have been enacted to protect landowners from trespass. Harvesters of Christmas trees, seed cones and other special products in Oregon are required to obtain a "Permit to Harvest Miscellaneous Tree Products" from the local District Warden or Farm Forester. Some harvesters of special forest products enter into long-term leases with the landowner. This arrangement may be mutually beneficial by providing incentives to both parties for good management and harvesting practices.

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